

Running head: ABORIGINAL CERVICAL CANCER SCREENING

Cervical Cancer Screening Among Aboriginal Women
and the Influence of Nurse Practitioners in Providing Screening

Submitted to:

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the requirements for the degree of
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Abstract

The primary objectives of the study were to explore Aboriginal women's current cervical health practices and cervical cancer screening (CCS) utilization, to identify Aboriginal women's knowledge and risk associated with cervical cancer, and to describe Aboriginal women's level of satisfaction with primary health care nurse practitioner (NP) services delivered through an Aboriginal health access centre (AHAC). Phase 1 included data collection from a cohort ($N_1 = 109$) of Aboriginal-identified women ages 19 to 69 through the use of a comprehensive questionnaire that identified their current health care utilization rates, cervical cancer risks, knowledge and CCS history; cultural practices, general health beliefs, and experiences; and level of satisfaction with NPs. Phase 2 consisted of a descriptive analysis ($N_2 = 341$) of Aboriginal women ages 19 to 69 who had accessed NP services through an AHAC during the 12-month period from October 2003 to October 2004. Questionnaire data showed that 99% of the participants reported having CCS in the past, with 81% self-reporting CCS within the past 2 years. The research showed that this cohort of women currently meets the Ontario program objective to increase those women ever having been screened to 95% by 2010. More than 60% of the participants in phase 1 had three cervical cancer risk factors, with 68% of first pregnancies reported as occurring by age 20, and 62% self-identified as current smokers, of whom 93% reported regular smoking by age 19. NP services, available since 1999 through AHAC, provide on-reserve Well Women Clinics that have contributed to a marked decrease in status on-reserve Aboriginal women's reports of last Pap test greater than 2 years ago.

Introduction to the Study

Introduction

Cervical cancer in women worldwide is the second most commonly diagnosed cancer. In Canada, the Canadian Cancer Society (2002) ranked cervical cancer as the eighth most frequently diagnosed cancer among Canadian women. Registered Aboriginal Ontario women have a significantly higher cervical cancer incidence, occurring 73% more often in this group than in their Ontario female counterparts (Northern Health Information Partnership [NHIP], 2000). NHIP reported that between 1987 and 1996, cervical cancer was the second most frequently diagnosed cancer type in Northern Ontario in women ages 20 to 44. Cancer Care Ontario (CCO, 2000a), in collaboration with the Aboriginal Cancer Care Unit (ACCU, 2002), identified excessive cervical cancer rates among Aboriginal women, reporting that this Ontario subgroup is twice as likely as other Ontario women to be diagnosed with cervical cancer.

Health Canada (2002a) acknowledged that the primary risk factor for the development of cervical cancer is underscreened or unscreened cervical cancer prior to a diagnosis of cervical cancer. Young, Kliewer, Blanchard, and Mayer (2000) identified Aboriginal women as more likely to be either underscreened or unscreened. They concluded after their study of cervical cancer screening among Manitoba Aboriginal women, “There is an urgent need for an organized Papincolaou test screening program in the Aboriginal population” (p. 1466). Young et al. also found higher cervical cancer rates for all age groups in this population in part because of inadequate participation rates in cervical cancer screening (CCS).

From an economical point of view, the cost of CCS is far less than the direct and indirect health care costs associated with the development and subsequent medical management of cervical cancer. CCS of Aboriginal women in settings that overcome barriers to participation as expressed by this group by utilizing nurse practitioners may enhance cervical screening among this cohort. The reader should note that the College of Nurses of Ontario (CNO, 2003) refers to nurse practitioners as registered nurses functioning in the extended class (RNECs). For the purposes of this paper, RNECs are referred to as nurse practitioners (NPs).

Nonmedical health determinants and risk factors are linked to the higher incidence of cervical cancer in Aboriginal women, according to Health Canada (2002a). Young et al. (2000) identified risk factors that include increased frequency of sexual activity, earlier age at first sexual encounter, greater number of lifetime sexual partners, greater number of sexual partners within the past year, history of smoking, and a reduced participation rate in CCS.

Research has increased awareness of the barriers to CCS participation encountered by Aboriginal women, identifying specific perceptions, attitudes, and preferences that influence their uptake of CCS (Steven et al., 2004). Primary health care reform initiatives promote the right care at the right place by the right professional. Ministers of health support this transition toward primary health care reform, which is committed to the prevention, promotion, and maintenance of the health and well-being of Canadians. There is also a commitment by politicians to improve the health status of Canadian Aboriginals to the level of that noted among non-Aboriginals. The former minister of health reaffirmed a commitment to closing the health status gap noted

between Aboriginals and non-Aboriginals, identifying continued efforts to improving primary health care services and programs in First Nations communities as a priority of the First Nations and Inuit Health Branch (FNIHB; Health Canada, 2004).

Statement of the Problem

When compared to their non-Aboriginal counterparts, Aboriginal women throughout Canada experience unacceptably high rates of cervical cancer. A diagnosis of cervical cancer is a failure of CCS recruitment, inadequate recall, or gaps in the follow-up of these women (Garner, 2003). Research is needed to examine the impact of CCS in a cohort of Aboriginal women aged 19 to 69 conducted by NPs working within a primary health care agency in Northwestern Ontario.

Objectives of the Study

1. To describe quantitatively CCS utilization trends over the 5-year period (1999-2004) performed by NPs through an Aboriginal health access centre (AHAC) in a cohort of Aboriginal women ages 19 to 69 years accessing services at this agency.
2. To explore Aboriginal women's level of satisfaction with NP services delivered through AHAC.
3. To identify the risks associated with the development of cervical cancer among the participating Aboriginal women.
4. To identify Aboriginal women's level of knowledge of cervical cancer and current CCS participation rates.
5. To explore Aboriginal women's current health practices and their utilization of NP services.

Theoretical Framework

Health promotion encompasses many theories and concepts. One concept central to the Canadian Cancer Society (2002) is advocacy. The concept of advocacy in primary health care linked to social health indicators is a common theme throughout health promotion research.

Research addressing the individual, the community, and the environment, as outlined in the health determinants model, acknowledges the influence of the individual, socioeconomic position, and physical environment attributes on health outcomes, in addition to the attributes of health services. A public health approach utilizing the determinants of health is consistent with the holistic philosophy of health within Aboriginal communities. Integrating an understanding of the influences of nonmedical determinants of health in comprehensive health promotion strategies acknowledges their relationship with health status outcomes individually and communally. The determinants of health conceptual framework acknowledges how these multiple factors influence and contribute to the health of individuals and communities. Each factor's individual and interactive influence piece together to shape overall health and an individual sense of well-being (Health Canada, 2002a).

Identified determinants of health include income and social status, social support networks, education, employment and working conditions, social environments, physical environment, gender, culture, biology and genetic endowment, personal health practices and coping skills, healthy child development, and health services (Health Canada, 2002a). Income influence on health has shown that people with lower incomes are less healthy than people with higher incomes (Health Canada). Education attainment has a

similar influence in that individuals with lower educational attainment have subsequently less stable incomes and, therefore, are less healthy than people who have attained a higher education (Health Canada). Unemployment is associated with reduced social status, poorer health, and higher rates of mental and physical ailments (Health Canada). Social status affects health by influencing the amount of control and capacity that individuals are given to make decisions related to their life circumstances (Health Canada). Lack of autonomy and choice ultimately influence overall individual health status.

Social support networks, which influence psychosocial and physical health perceptions and well-being, involve supports encountered during the activities of daily living where people live and work (Health Canada, 2002a). Supportive social environments acknowledge and respect multiculturalism and influence health by identifying the societal norms and values (Health Canada). Gender and cultural inequities influence health status through access to health information and influences on lifestyle decisions (Health Canada). Personal health practices influence preventative health care participation and, ultimately, early identification and treatment of health conditions (Health Canada). Poor health practices are not solely attributable to individual choice but also are strongly influenced by socioeconomic factors (Health Canada Online, 2004). Public health services are designed to promote, maintain, and restore health throughout the life span (Health Canada). Health Canada Online concluded:

The determinants of health framework challenge researchers, practitioners and policy makers to devise both medical and non-medical interventions that will improve the health of individuals. Current knowledge shows that medical care is

only one way and not necessarily the most significant way to maintain and improve health. (Lessons Learned section, ¶ 1)

Health Canada Online presented key nonmedical interventions that would offer as much potential for health improvement as traditional health care and would include “socioeconomic equity employment social support networks” (Lessons Learned section, ¶ 4). Specific to Aboriginal communities, Health Canada Online reported, “The health needs of Aboriginal peoples are similar to those of other groups and communities in Canadian society who experience helplessness and powerlessness; however the magnitude of the problems for Aboriginal communities are greater” (Lessons Learned section, ¶ 9).

The utilization of health indicators in primary health care and, more importantly, in populations that inherently have practiced a holistic health care approach, has more potential to meet consumer expectations in regard to public health preventative interventions and subsequently to contribute to the goal of healthy behavior change. The Assembly of First Nations (AFN) has advocated for such a strategy that recognizes the traditional approaches to health.

Advocacy recognizes that barriers to health care lie beyond the control of the individual. Advocacy can be lobbying efforts by groups such as the AFN and the Canadian Cancer Advocacy Network, both of whom urge governments to establish guidelines and policies for identified health care issues. Health advocates’ goals are the protection and empowerment of the vulnerable and disadvantaged (Carlisle, 2000). Carlisle recognized that advocates for the well-being of whole populations are needed to achieve health promotion goals.

Public health advocacy is focused on reducing mortality or disability in groups of people. It is not confined to the clinical setting. A framework presented by Christoffel (2000) demonstrated the multidimensional effort entwining advocacy products, processes, and participants. The information stage of this model involves identifying, describing, and quantifying public health concerns. The strategy stage uses available information to discern what changes are needed to improve public health. The third stage, that of action activities, is focused on implementing specific strategies that may change attitudes, habits, resource allocation, and the physical and social environments affecting the severity of public health problems (Christoffel).

Health determinants, in union with Christoffel's (2000) advocacy framework, can identify current public health issues and strategies that encompass the interactive determinants of health, ultimately leading to the right care at the right place by the right professional. Incorporating such concepts provide a better understanding of the dynamics of marginalized populations and their social and cultural barriers to health care and prevent health care providers from being misguided by their own beliefs, values, and assumptions.

There remain many strong advocacy issues surrounding CCS in Canada. An identified priority is the need for unique prevention and early detection strategies for Aboriginal women and the need for comprehensive provincial CCS programs and national guidelines with linkages at all levels. Politically, advocacy is needed to promote the ranking of Aboriginal women's reproductive health policy to a higher priority. Since the late 1980s, a key strategy for the Canadian Cancer Society (2002) has been public policy advocacy and a commitment to increasing awareness of cancer-related issues.

Literature Review

Introduction

The literature review describes previous research studies. Background information and current knowledge of public health issues involving CCS in marginalized populations are addressed. The utilization of NPs in primary health care and their role in CCS are reviewed. Supportive evidence on the effect of cultural and environmental influences on CCS participation among Aboriginal women is identified.

Cervical Cancer and CCS

According to the Canadian Cancer Society (2002), Canadian women's lifetime probability of developing cervical cancer is one in 137, with a lifetime probability of death from cervical cancer equal to one in approximately 370. The Canadian Cancer Society equates this to 10,000 potential years of life lost. It also reported 1,345 new cases of cervical cancer in 1998, with 405 deaths. Noorani, Brown, Skidmore, and Stuart (2003) referenced similar statistics for 2003, estimating 1,400 new cases of cervical cancer and 420 deaths from cervical cancer, equalling an overall Canadian national cervical cancer incidence rate of 8.0 per 100,000. Such statistics imply a major direct cost to the public health care system.

Health Canada (2002b) reported that Canada's 8/100,000 cervical cancer incidence rate is similar to that of the United States, Sweden, and Italy, among others. In comparison to those countries with the lowest reported cervical cancer incidence rates, Health Canada also identified Canadian rates as being approximately twice as high as those recorded for China, Finland, and Spain.

The Canadian Cancer Society (2002) for Ontario 1998 data reported the number of new cases at 480, with 170 deaths due to cervical cancer in Ontario women. Grace (2002) reported that cervical cancer incidence among Ontario women between 1987 and 1996 at 10.1 cases per 100,000 women, noting a higher rate of 11.5 to 12.4 per 100,000 for rural and northern women. According to NHIP (2000), among women ages 20 to 44 years, cervical cancer was the second most frequently diagnosed cancer type in Northern Ontario between 1987 and 1996. NHIP identified an Ontario cervical cancer mortality rate of 2.7 per 100,000, and a much higher rate of 4.0 per 100,000 for Northwestern Ontario women.

The ACCU (2002) reported a lack of awareness, shyness, and discomfort with the procedure to explain why Aboriginal women do not participate in CCS. According to Young, O'Neil, Elias, Leader, and McDonald (2002), Aboriginal women carry a greater burden of cervical cancer disease. Having greater risk for the development of cervical cancer, as compared to Canadian women nationwide, Aboriginal women are a vulnerable, at-risk population who challenge inquiry into barriers and compliance-related issues affecting their participation in CCS.

Invasive cervical cancer is a preventable disease. The Alliance for Cervical Cancer Prevention (2002b) supported the use of Pap smear screening as a cost-effective and acceptable strategy for the secondary prevention of cervical cancer. In Canada, regular CCS has been shown to prevent almost all (90%) cases (Health Canada, 2002b). The benefits of cervical screening are well documented, clearly charting a marked decline in Canadian incidence and mortality rates over the past 25 years since the introduction of CCS programs. The Pap smear is the most common CCS method. It involves the

microscopic examination of cells retrieved from the cervix of a woman for the purpose of early detection of precancerous cellular changes (Noorani et al., 2003). Precancerous cellular dysplasia generally can be detected up to 10 years prior to the development of cervical cancer (Program for Appropriate Technology in Health [PATH], 2002). Noorani et al. cited recent comprehensive reviews on Pap smear sensitivity and specificity parameters that have found Pap smear sensitivity ranges from 87% to 30% and specificity ranges from 86% to 100%. Health Canada (2002a) reviewed the screening histories of women with invasive cervical cancer and found that approximately 60% of these women had not been screened within the previous 3 years.

Canada has been committed to the implementation of organized, comprehensive, population-based CCS programs since the late 1950s for the secondary prevention of cervical cancer. However, although many provinces have some of the critical components in place, none has fully implemented a comprehensive program (Noorani et al., 2003). The Canadian Strategy for Cancer Control (2002) presented key elements of organized population-based cancer screening programs. Some of these supportive key elements include, but are not limited to:

- Screening must be comprehensive (includes components of recruitment, screening, treatment, follow-up, and recall)
- Public education to increase public knowledge regarding prevention, screening, symptoms etc... in a manner which is sensitive to the cultural diversity and needs of high risk groups.
- Health care provider education.
- Reasonable accessibility to screening for all those eligible.

- Continuous program monitoring and evaluation, with dissemination of results to the public.
- Electronic support through the use of a computerized information system.

Table 1 outlines the historical background of CCS in Canada. The contents were adapted from Health Canada (2002b) data and Noorani et al.

Table 1

Historical Evolution of CCS in Canada

Year	Historical Background
1886	Dr. Papanicolaou develops the Pap test
1949	British Columbia is the first Canadian province to utilize the Pap test for CCS.
1960	British Columbia introduces Canada's first provincial CCS program. CCS is introduced throughout Canada during the 1960s.
1973	Deputy Ministers of Health conference was held and the need for comprehensive CCS programs was identified.
1973	Walton report (published in 1976) arises from the Ministers of Health conference and recommends that health authorities support provincial program development.
1980	The provinces have not instituted Walton report recommendation for provincial program development.
1982	<ul style="list-style-type: none"> • Walton Task Force on CCS reassembles to address the lack of provincial programs and puts forth further program recommendations. • British Columbia identified as the only province with elements of an organized program in place.
1989	<p>National Workshop on Screening for Cancer of the Cervix</p> <p>Specific factors identified that contribute to the effectiveness of CCS programs:</p> <ul style="list-style-type: none"> • Women at highest risk not being screened • Smears not adequately taken • Gaps in appropriate follow up and management for positive smears • Some women identified as screened too often • Canadian incidence rates for cervical cancer continue to show a steady decline.
1990	Deputy Ministers of Health accept recommendations from the National Workshop identifying the need for a broad-based, organized CCS program.
1994	<p>National Population Health Survey findings: (on-reserve Aboriginal population excluded)</p> <ul style="list-style-type: none"> • 15% of women never screened • 68% screened within past 3 years • 46% screened within past year • 82% reported as having been screened in the past. • Overall, across Canada there are high rates of inadequate CCS.

Year	Historical Background
1995	<p>Interrelated components of CCS programs are outlined in Health Canada's Interchange '95 and include:</p> <ul style="list-style-type: none"> • Computerized information systems • Quality management components • Population-based recruitment <p>Formation of the Cervical Cancer Prevention Network to guide the development of organized CCS programs in response to national recommendations and goals to reduce the mortality and morbidity of cervical cancer.</p>
1998	<p>Cervical Screening in Canada, 1998 report.</p> <p>The first national surveillance report on CCS. Reports cancer of the cervix remains the second leading cancer diagnosis among women of all ages. CCS in women is predominantly opportunistic. Key findings include:</p> <ul style="list-style-type: none"> • Most women diagnosed with cervical cancer have no prior history of Pap smear CCS. • Barriers to CCS must be identified and addressed to reduce the mortality and morbidity of cervical cancer. • Surveillance has identified high-risk groups. • The need to promote the adoption of a standardized national classification and reporting system. <p>1969 – 1998: Cervical cancer incidence rate declines from 21.8 to an estimated 8.3 per 100,000.</p>
2000	<p>June 15, launch of the Ontario Cervical Screening Program by Cancer Care Ontario and the Ministry of Health and Long-Term Care. Continued recommendations for comprehensive screening programs.</p> <p>Young et al. (2000) reported that despite the effectiveness of CCS programs, Aboriginal women do not participate as often as women in low-risk groups and their reduced rate of participation, in combination with other risk factors for the development of cervical cancer, identifies Aboriginal women as a high-risk group.</p> <p>Young et al. report risk factors for cervical cancer development among Aboriginal women that include:</p> <ul style="list-style-type: none"> • Earlier age at first sexual encounter. • Increased frequency of sexual activity. • Greater number of lifetime sexual partners. • Greater number of sexual partners in past year. • Reduced rate of participation in CCS. <p>Risk factors are consistently identified within the literature as known factors for the development of cervical cancer, in addition to smoking history, low level of education attainment, and low socioeconomic status.</p> <p>Infection with human papillomavirus (HPV), a common sexually transmitted viral infection, is considered throughout the literature as a causal factor in the development of cervical cancer (Shah, 2003).</p>
Present	<p>To date, no Canadian province or territory has fully implemented the recommended comprehensive population-based organized CCS (Noorani et al., 2003).</p> <p>The majority of CCS continues to be opportunistic in nature, and failure to be screened is a principle risk factor for the development of cervical cancer.</p> <p>Ontario provincial program objectives for the early detection of cervical cancer include a reduction in cervical cancer mortality by 50% by 2005, an increase in those being screened according to recommended guidelines to 85%, and to increase to 95% by 2010 the number of women ever screened (NHIP, 2000; Northwestern Health Unit [NWHU], 2003).</p>

A common sexually transmitted virus, the human papilloma virus (HPV), is the central causative factor to the development of cervical cancer, with approximately 95% of all cervical cancer cases having carcinogenic types of HPV infection (Noorani et al., 2003). Duval, Steban, and Barr (2004) identified the presence of HPV in 100% of cervical cancer lesions. Duval et al. reported that HPV is the most communicable of all sexually transmitted infections, noting that unlike most other sexually transmitted infections, HVP does not present with any overt signs symptomatic or diagnostic of infection. Bosch and deSanjose (2003) stated, “The nature of the association between HPV and cervical cancer has been exhaustively investigated and [*sic*] since the early 1990s, and all academic reviews have consistently concluded that the evidence fulfills most of the established criteria of causality” (p. 10).

Persistent infection with carcinogenic HPV genotypes (HPV-16, 18, 45, 31, 33 & 52) has been associated with increased risk and the development of cervical cancer among older women (Colgan, 2001; Sellors, Karwalajtys, et al., 2002). Duval et al. (2004) reported an odds ratio (OR) of 70 for cervical cancer risk associated with persistent infection of HPV, measuring persistent infection as 2 positive HPV screening tests within a 2-year period. Sellors, Karwalajtys, et al. identified the following factors related to the presence of carcinogenic types of HPV:

- Greater number of lifetime sexual partners.
- Greater number of sexual partners in past year.
- Earlier age at first sexual encounter, premature intercourse.
- Parity.
- Current smoking status.

- Current use of oral contraception.

Supporting the known contributing factors to the development of cervical cancer described by Sellors, Karwalajtys, et al. (2002), Duval et al. (2004) clarified early age at first sexual encounter, defining premature intercourse as sexual activity prior to full development of the cervix, noting cervical maturity normally occurs by age 18 to 19 years. Duval et al. reported a greater than 14% increase in cervical cancer risk for each year of premature sexual intercourse. In a study of sexual behavior and smoking as determinants of cervical HPV infection, Deacon et al. (2000) consistently found a highly significant dose-related relationship between smoking and HPV infection causing cervical cancer, a result that supports smoking as a cervical cancer risk factor.

Sellors, Karwalajtys, et al.'s (2002) findings were consistent, suggesting a latency period after HPV infection when the HPV reactivates, causing recurrent disease in some women with increasing age and reducing immune competency. Ongoing research by Sellors et al. (2003) found the highest incidence of HPV infection among women ages 15 to 19 who appeared to clear the infection after approximately one year. Sellors et al. noted that the risk factors for HPV infection are similar to those for other sexually transmitted infections. Specific to Aboriginal women and the current prevalence of diabetes in this population, a question emerges regarding the effect of immune-compromising diabetes on the incidence of latent HPV infection and the subsequent development of cervical neoplasm.

PATH (2002) acknowledged exposure to and infection with HPV as the initial phase in the natural history of cervical cancer development. PATH cautioned that cervical cancer carries a stigma in some parts of the world related to its association with

sexual activity; therefore, women are often reluctant to participate in CCS, more so if it is perceived to be associated with screening for sexually transmitted infections. This planning document advised that to avoid client concerns, health care providers may struggle with the amount of information they share with their patients when describing the Pap test. They may even opt not to explain the relationship between HPV and the development of cervical cancer (PATH). PATH also noted, “The lack of access to screening compounds the effect of high rates of human papillomavirus infection, the primary underlying cause of cervical cancer” (p. 3). The identification of CCS as a public health issue among Aboriginal women is a significant reproductive health problem. CCS can reduce the incidence of cervical cancer by as much as 90% where CCS coverage and quality of Pap smears are high (Sherris, 1999).

The researcher also reviewed literature assessing the beliefs, attitudes, and opinions among various cultures that influence women’s participation in CCS. Cultural perspectives must be considered in the delivery of CCS. Despite the existence of excellent programs, women in specific cultural groups, including Aboriginal women, are not being reached, as evidenced by high-risk populations being less likely to participate in CCS than lower risk groups (Young et al., 2000). This reality has been noted in British Columbia and Saskatchewan studies. Band et al. (1992) found significantly higher cervical morbidity and mortality rates among Aboriginal women than their provincial counterparts, a finding consistent in Ontario, where rates among Aboriginal women remain high. Screening programs do not reach as many Aboriginal women as they do non-Aboriginal women (Band et al.).

Steven et al. (2004), whose research in Northwestern Ontario addressed the knowledge, attitudes, beliefs, and practices related to CCS, interviewed a subgroup of Aboriginal women. They reported that Aboriginal women are more likely than other ethnocultural groups cosurveyed to be fearful of and uncomfortable with the CCS procedure and possess a stronger sense of privacy. They found that among the Aboriginal women participating in their study, 77% reported a smoking history, with 47% self-identifying as current smokers; 50% reported using oral contraception prevention; a higher number of pregnancies were reported; and 33% had in the past refused an internal examination. Compiling responses from all their study participants, Steven et al. identified four main intervention themes related to CCS recruitment:

- The use of multiple media formats to increase awareness of CCS programs
- The need for expanded educational strategies
- The need for a recall system to remind women when they are due for CCS
- The need for practitioner screening practices that reduce the level of discomfort and fear associated with the procedure.

Young et al. (2000) monitored cervical cancer disease and CCS behaviour among Aboriginal women in Manitoba. Their findings were alarming. Young et al. accessed the Manitoba Health Services Insurance Plan database and grouped regional health authorities into the categories of Winnipeg, south-rural, and north-remote. They proceeded to extract information from linked databases on in situ and invasive cancer occurring between 1984 and 1997. The results showed a significantly higher incidence of in situ and invasive cervical cancer among Manitoba Aboriginal women for all age groups than their non-Aboriginal counterparts (see Table 2). Higher incidence rates of

cancer were consistent, regardless of rural or urban residency. Remoteness of residency appeared to be a factor for Aboriginal women when prevalence of Pap testing was evaluated, with remote residency associated with a lower prevalence rate of 33% versus 56.3% of Pap testing.

Table 2

Incidence of Cervical Cancer and Frequency of Pap Tests Among Women In Manitoba, Canada: 1984 -1997

	Incidence of In Situ Cancer (per 100,000)		Incidence of Invasive Cancer (per 100,000)		Prevalence of Pap Testing (percent %)	
	Aboriginal Women	Non-Aboriginal Women	Aboriginal Women	Non-Aboriginal Women	Aboriginal Women	Non-Aboriginal Women
Age Specific Rate						
15-19	71.2	25.6	0.0	0.2	51.7	38.8
20-34	269.4	158.0	29.1	7.9	64.4	75.2
35-64	102.9	57.7	48.2	14.9	42.8	65.6
> 65	44.7	13.3	74.5	18.1	10.3	33.1
Total	102.5	60.6	19.5	9.7	52.7	60.2
Age Standardized Rate						
Winnipeg	127.5	63.4	45.2	10.0	56.3	62.8
South-Rural	93.8	69.2	24.8	12.4	47.1	57.7
North-Remote	119.4	52.8	41.3	8.3	33.0	56.2
Total	110.1	60.3	34.1	9.5	42.6	60.4

Note. Incidence data cover the period 1984-1997, Pap test prevalence cover the period from the fiscal years 1993-1994 to 1995-1996.

Young et al. (2000) reported that disparities in their research may have been the result of a lack of a provincial registry, the exclusion of on-reserve Aboriginals from regional surveys, nonparticipation in CCS because of practitioner gender, and culture-specific factors. These results are extremely interesting because of Manitoba's proximity

to Northwestern Ontario and the potential for similar findings among Northwestern Ontario's Aboriginal women.

Duval et al. (2004), PATH (2001), Young et al. (2000), and addressed the need for the primary prevention of HPV exposure and infection through public health messages targeted at adolescents and young adults. Advocacy for primary prevention of HPV infection includes messages that promote reduced sexual intercourse in the young, as well as encouragement to delay their first sexual encounter. However, unlike traditional primary prevention approaches for sexually transmitted infections, the use of condoms is not effective in preventing genital HPV infection (Duval et al.).

According to Health Canada (2002b), national CCS participation rates range from 67% to 74%, with little variation noted among the provinces. British Columbia has the lowest cervical cancer rates, an outcome that is attributed to its established CCS program. Statistics Canada (1998), in addressing Pap smear practices, included a recommendation for screening every 3 years within an "organized program" from age 18 or the onset of sexual activity, whichever comes first, through age 69. It identified an organized program as one that encompasses a population-based registry with good lab services, noting that no provinces have both these components integrated into their programs (Health Canada).

Statistics Canada (1998) documented that women with less than a high school education and women providing care within the home have higher odds of not having had a Pap test. International studies have supported the relationship between socioeconomic status and educational attainment on participation in CCS, as evidenced in a Nicaraguan study by Claeys et al. (2002) and an American study by Garner (2003). Claeys et al. found that lack of knowledge, negligence, absence of medical problems, and fear are

some of the primary barriers to CCS. Garner used a case study to conduct a literature review on cervical cancer determinants. Garner addressed disparities in CCS and concluded that women from minority groups, of rural residency, and of low SES experience a greater burden of cervical cancer illness. She also determined that these women have a tendency to be diagnosed at a later disease stage, resulting in higher mortality rates. Garner's review on disparities in CCS found that income level and educational attainment are stronger predictors of CCS participation than are race and ethnicity. Garner reported that "after controlling for disease stage, race, ethnicity, and socio-economic status, higher morbidity and mortality rates persist among underserved minority cervical cancer patients" (p. 243s). She also cited Harris and Leininger (1993):

It has been shown that preventive care in primary care practices is often more difficult to deliver in rural as compared with urban medical practices, contributing to lower screening rates. Furthermore, rural women tend on average to be older, poorer, and less educated and therefore, less frequently screened. These patients tend to spend less time with their physicians and more time traveling to their healthcare providers. (p. 244s)

Lee, Parsons, and Gentleman (1998) identified factors associated with Pap smear participation consistent with various national and international reports and research in documenting the influence of educational attainment and income level factors. They stressed that noncompliance is not synonymous with personal responsibility, alerting readers to barriers such as lack of awareness, knowledge of CCS benefits and effectiveness, inadequate promotion of CCS by health care professionals, and barriers related to accessibility as reasons affecting participation.

This report was consistent with others, including one published by the Canadian Strategy for Cancer Control (2002), in finding that lower risk women are overscreened and that higher risk women are underscreened. Lee et al. (1998) found that the majority of women in their study who were diagnosed with cervical cancer had never been screened or had been screened more than 5 years previous, emphasizing that more must be done to address and reach high-risk groups. The Canadian Strategy for Cancer Control suggested that up to 50% of current cervical cancer deaths could be prevented by ensuring that the key elements of organized, population-based CCS are in place to address equity and distributive justice and more effectively reach high-risk and hard-to-reach women.

Table 3 summarizes Canadian compliance rates (Lee et al. 1998). The data support the influence of income, ethnicity, residency and sexual health-related behaviour on participation in CCS. Consistent with Garner's (2003) conclusions, Lee et al. found that a greater percentage of women in the lower income and rural residency categories had had their last Pap test more than 3 years ago. Lee et al. reported that women with less than a high school education are more than twice as likely to have never had a Pap test. Specific to the Aboriginal population, Lee et al. found that Aboriginal women are more likely to have never had a Pap test and are less likely to have had a Pap test within the past 3 years, as compared to Canadian women and Ontario women.

Table 3

Pap Test Noncompliance Rates, Canada 1994-1995 Among Females 18 Years Plus

	Never had a Pap test %	Last Pap test > 3 years ago %	Pap test within past 3 years %
Canadian women	13.3	18.6	81.4
Ontario women	14.5	18.6	81.5
British Columbia women	11.3	22.5	77.5
Aboriginal women	16.3	21.4	78.6
Lower income	22.6	22.7	77.3
Higher income	8.8	10.2	89.8
Rural residency	13.5	23.2	76.8
Urban residency	16.6	15.2	84.8
One reported sexual partner	9.3	8.7	91.3
Three or more reported sex partners	13.4	1.4	98.6
No reported sexual partners	47.1	15.6	84.4
Less than high school education	OR = 2.12		

An American study conducted by the National Committee on Quality Assurance (2002) attempted to improve understanding of the characteristics of noncompliant women regarding CCS. This study identified unscreened women as generally older and having fewer contacts with primary health care providers. Recommendations arising from this American study included the use of nurses at nontraditional sites to perform CCS, an approach shown to increase participation rates from 63.4% to 71%. Finkelstein (2002), who utilized the National Population Health Survey (NPHS) to determine factors related to CCS, sampled NPHS-surveyed women over 20 years of age and reported that women with regular family physicians are more likely to have screening (OR = 4.4), and he identified even higher rates of CCS participation (OR = 6.7) among women who attend periodic health examinations. It is important to point out that because most national and regional health surveys exclude the Aboriginal on-reserve population, the results from these reports are not representative of this population.

Sherris (1999) addressed strategic approaches to improving women's health and reaffirmed that preventing HPV infection also prevents cervical cancer. Sherris reported that CCS programs best meet women's needs when essential cultural and client perspectives are integrated into the program. Sherris stated, "Integrating preventive cervical cancer interventions into existing reproductive health services would help to answer the broad-based call for making a range of reproductive health services more accessible through the primary health care system" (¶ 3).

Cervical cancer and the reviewed CCS literature portray cervical cancer as a significant reproductive health problem, with marginalized populations continuing to carry a greater burden of the disease. Public health strategies addressing the influences of nonmedical determinants of health on cervical cancer and CCS participation are common themes throughout the literature. Another theme arising from the literature on CCS participation has been the use of nurses in nontraditional settings to collect Pap tests. To gain a greater understanding of the role of the nurse in primary health care, the researcher conducted an additional review of the literature on the expanded nursing role in primary health care.

Primary Health Care and the Expanded Nursing Role

Reforming the Canadian health care system is an important health policy issue currently debated at provincial and national levels. Primary health care refers to the initial point of contact and the first level of care that Canadians have with the public health care system. Armstrong (2001) cited the Ontario's Health Services Restructuring Commission's description of primary health care as:

The first level of care, and usually the first point of contact, that people have with the health care system. Primary health care supports individuals and families to make the best decisions for their health. It includes advice on health promotion and disease prevention, health assessments of one's health, diagnosis and treatment of episodic and chronic condition, and supportive and rehabilitative care. (Primary Health Care Defined section, ¶ 5)

Primary health care reform strives to improve the performance of the health care system and is rooted in a framework focusing on health determinants. Reform of the current health care delivery system through such a population health-based approach is theoretically expected to offer Canadians improved health access and care.

Numerous reports addressing health care reform in Canada have been produced at the federal and provincial levels. At the federal level, the Kirby (2002) and Romanow (2002) reports detailed the roles and responsibilities of the federal government in providing population health services. The Health Council of Canada was established upon recommendations from the Romanow report to monitor and provide annual public reports, focusing on accountability and transparency within the public health care system.

Health care reform goals, such as increasing the proportion of the population having access to primary health care centres, the establishment of interdisciplinary primary health care provider teams, and the coordination and integration with other community health care services, are imperative to improving accessibility to primary care (Shah, 2003).

The establishment of such health care teams emphasizing health promotion is also a goal of the National Primary Health Care Awareness Strategy (2004). The Health

Council of Canada also supports the development of primary health care interdisciplinary teams to increase access to health care. Health Canada (2002c) published responses to frequently asked questions pertaining to primary health care renewal. Responding to the question, “Why is primary health care renewal needed now?,” Health Canada commented:

Primary health care provider access, particularly in remote areas is a problem.

The current fee-for-services reimbursement arrangement for physicians questions the affordability of the Canadian health care system and quality of care provided.

There is insufficient integration of family physicians with other parts of the health care system that results in uncoordinated and duplicated patient care (Why Is Primary Health Care Renewal Needed Now section, ¶ 1)

The Association of Ontario Health Centres [AOHC] (2002) reported that primary health centres offer such services, providing comprehensive health care focused on health promotion and illness prevention that emphasizes multidisciplinary group practice. The AOHC reported an estimated annual saving to the public health care system equivalent to \$2.4 million related to health centres’ salaried reimbursement funding structure and the appropriate use of nonphysician services. The AOHC identified an important role for the integration of community-governed health centre care models in provincial primary health care reform.

Armstrong (2001), in addressing issues of primary health care reform, reported that the current fee-for-service payment to family physicians encourages these providers in the form of personal economic incentive to provide as much service as possible as quickly as possible. Armstrong, in discussing problems with the current Canadian health

care system. reported, “By rewarding activity to address specific diagnoses and treatments, the fee-for-service system discourages physicians from spending time with their patients to explore multiple causes of ill health or to identify disease prevention and health promotion strategies”(Why the Focus on Primary Care Reform section, ¶ 3). This provider reaction is consistent with what free market economic principles would predict. Armstrong reported that such a payment structure consequently affects individuals seeking physician services and that there are now reform pressures to eliminate the incentives and problems caused by the current reimbursement payment structure.

Armstrong (2001) also acknowledged the impact of health determinants on overall health status. He advised of the need to address these interacting factors, taking advantage of a full range of health care providers to promote health and treat illness because those of the family physician alone are inadequate and do not promote comprehensive health care delivery. Armstrong outlined the positive aspects to primary health care reform and identified “nurse practitioners and other advanced practice nurses [as] central to primary health care reform If multi-disciplinary [*sic*] practice is to be more than a rhetorical matter, then they and perhaps other health professionals should be included in the proposals” (What’s Good about Primary Care Reform section, ¶ 4).

The CNO (2003) is the registering regulatory body for NPs in Ontario. The CNO outlines the benefits of NPs to the nursing profession and the public, and it determines the standards of practice for nurses registered in this capacity. Standards of practice for NPs include competencies in the following areas: health assessment and diagnosis, therapeutics, health promotion, disease prevention, family health, and community

development and planning. Although NPs function in a more independent role than registered nurses, the CNO standards outline the expectations for collaboration and consultation with family physicians. The initiation and performance of CCS is within the skill set of the NPS, as outlined in the CNO standards of practice.

The Nurse Practitioners' Association of Ontario (NPAO, 2002) reported 27 underserved areas in Northern Ontario actively recruiting family physicians to fill 72 vacancies. The NPAO suggested that many of the primary health care needs in such communities could be addressed both effectively and economically through the utilization of NPs. The NPAO acknowledged that the current fee-for-service reimbursement structure for Ontario physicians, who provide most of Ontario's primary care needs, is a major barrier to NP utilization.

The Ontario Medical Association Task Force (2002), in regard to the working relationship between the NPS and the family physician, supported building a relationship between the two professions through collaboration and consultation, two terms that have been described by the CNO (2003). The OMA Task Force reported that most questions from physicians concern roles, responsibilities, and the development of collaborative relationships. In discussing workload measurement, the OMA Task Force reported that physicians see 25 to 55 clients per day versus 8 to 20 seen by the NP, estimating NP cost per client visit at \$30 to \$75.

The OMA Task Force (2002) identified economic issues and workload as two issues that could impact the NP-physician working relationship. In addressing the economic issues, the OMA Task Force reported, "Physicians are concerned about entering into relationships with RN(EC)s [NPs] if the funding is not guaranteed"

(Working Relationship section 6, ¶ 2). Physicians also reported an increase in client acuity and severity when employed in collaborative practice with NP, resulting in concerns regarding reimbursement issues (OMA). Physicians were reported to carry a greater work burden when in joint practice with an NP related to higher patient-per-physician ratios and additional time demands due to informal, unpaid hallway consultations (OMA). The OMA Task Force concluded that the working relationship between physicians and NPs will continue to evolve and will be dependent on the individuals involved and the joint practice venue.

Finkelstein (2002) reported on an American study conducted in Ohio that reviewed 108 community physician practices and found that physicians with high-volume patient visits had lower rates of preventative services among their client base. The NPAO (2002) reported that NPs in health promotion and disease prevention practice with registered nurses, registered practical nurses, and community health nurses can provide health care that maintains optimal client health and reduces hospital admission rates. This interdisciplinary approach to primary health care delivery appropriately utilizing physicians, nurses, and other health providers is central to current health care reform discussion.

The Canadian Nurses Association (CNA, 2002), in reporting on the cost effectiveness of the NP role, supported the integration of the expanded nursing role into the primary health care system. The CNA identified NP utilization as instrumental in reducing health care costs and improving public access to quality primary health care. The CNA cited a (1985) Council of Ontario Universities study and an Ontario study (Way, 1999), each of which addressed cost-effectiveness data on collaborative NP-

physician practice. Way investigated NP utilization and suggested that more than 82% of primary patient care could be managed by this expanded nursing role, a finding reported by the CNA as consistent with American research. The CNA concluded with the following key message, “The nurse practitioner role has the potential to contribute significantly to resolving some of the current health care delivery problems by improving the public’s access to high quality care at cost savings to the system” (p. 2).

Way, Jones, Baskerville, and Busing (2001) studied primary health care services provided by Ontario family physicians and NPs in shared collaborative practice. They collected patient encounter data from 5 NPs and 13 family physicians in collaborative practice in Ontario over a 2-month period. Way et al. found that the NPs provided more disease prevention services and that 27% of NP visits were for periodic health examinations. Way et al. established that consultation patterns were more unidirectional, that is, NP to physician, than bidirectional. An interpretation of this result included the possibility of unclear liabilities and responsibilities on the part of physicians (Way et al.). The researchers also reported that the utilization of the NP remains limited to salaried globally funded agencies because of the current Ontario primary health care funding structure. Way et al. also reported that globally funded agencies are usually in the form of health centres frequently found in underserved and rural areas. These economic and geographic reasons, together with the lack of interdisciplinary education in professional schools, offer possible explanations for Way et al.’s finding of NP underutilization and poor physician-to-NP collaboration. Data arising from this study suggested that increased bidirectional collaboration and referral would support more effective and appropriate NP utilization and therefore optimize delivery of care.

The Ontario Ministry of Health and Long Term Care (MOHLTC, 2003) reported on the integration of NPs into primary health care delivery and identified that since 1998, 402 NP positions have been funded. The MOHLTC also reported that approximately 50% of these NP positions are affiliated with community health centres. The MOHLTC also documented its commitment to fund an additional 348 NP positions over the next 3 years. The literature review conducted by the MOHLTC identified key themes:

- The public accept and report high levels of satisfaction with NPs in primary care in tandem with physicians in interdisciplinary practice.
- Ninety percent of all health care services in Sioux Lookout Zone, Northwestern Ontario, are provided by nonphysicians.
- Barriers to the integration of the NP role include the lack of understanding of the NP role among other health care providers, a lack of acceptance by family physicians, and legislative and reimbursement issues including the fee-for-service structure.
- NPs practice autonomously, confidently, and efficiently in a broad range of skill sets, providing health care to all age groups.

The MOHLTC in this report classified the family physician as a medical specialist and the NP as a primary health care specialist with advanced nursing knowledge.

In summary, the review of the literature on primary health care and the expanded nursing role supports the integration of interdisciplinary health care teams as a model for the provision of primary health care in Canada. The NP and the advanced practice nurse have been identified as key members of interdisciplinary teams that are central to primary health care reform. Utilization of the nursing profession's scope of practice is an effective

and economical resource in meeting the challenges of health care reform. NP utilization provides increased and timely primary health care access; combined with their professional competencies, it supports the utilization of the NP as an appropriate practitioner for the delivery of CCS.

CCS Utilizing the NP

Many researchers have supported the involvement of nurses in approaches aimed at increasing CCS participation rates (Bottorff, Balneaves, Sent, Grewal, & Browne, 2001; Cheng, 1999; Dell, 1999; Kottke & Trapp, 1998). Common to many breast screening clinics is the use of female nurses, who provide screening and make women accessing these services more comfortable. The current structure of the Ontario Breast Screening Program is a comparative model for CCS programs because both programs have many similarities and challenges. The strategic recruitment approach utilized by the Ontario Breast Screening Program is its use of specially trained nurses to provide mobile breast screening in rural and northern communities.

Dontje, Sparks, and Given (1996) examined the utilization of independent NP clinics in a comprehensive breast clinic. They found that 86% of clients were satisfied with the care received and that 91% of clients felt that their concerns were heard and their questions answered. The investigators reported:

NPs can play an important role in helping women with breast concerns by incorporating clinical expertise with teaching and counselling skills The NP role emerged as an integral part of the practice, increasing the efficiency, availability, and effectiveness of the clinic services. (p. 95)

In a study of midwives working in a CCS program in urban Sweden, Lungren et al. (2000) conducted an international literature review of the role of nurses in CCS and reported the following themes:

- “In primary care, there is consensus concerning their competency as providers of primary care, especially for healthy....persons.” (p. 4)
- “Program evaluations showed not only that the technical competency of NPs in obtaining Pap smears was of adequate quality and equal to that of physicians, but that the use of NPs was said to be positive for both the clinic and the community.” (p. 4).
- “NPs reached populations of women not in touch with other practitioners because of ethnic background or age, often populations at increased risk due to lack of screening or underscreening.” (p.4)
- Female practitioners have a positive aspect.
- Studies confirmed the positive aspects of utilizing culturally sensitive, specially trained nurses familiar with the population, in CCS.

Lundgren et al. surveyed Swedish midwives and described their experiences with the country’s population-based CCS. They reported that population-based CCS has been performed by primary care nurse-midwives since the program was introduced in 1968. Nurses participating in this study only perform Pap smears. The nurses reported feelings of dissatisfaction in their role related to the lack of feedback on smear findings and women’s outcomes (Lundgren et al).

Michel, Ehrlich, Wright, Szadkowski, and McFarland (2003) reported on the use of NPs who teamed with northern provincial health units to provide CCS to hard-to-reach

women. Some NPs recruited by the participating health units for this project reported that their role in performing Pap smears was limiting because it did not allow them to fully utilize their scope of practice (Michelet al.). Their findings in the area of project planning and delivery included, “The cornerstones of NP care were that women felt comfortable, they were treated with respect, and the NPs listened to their stories” (p. vii). The researchers also found that “several of the target groups that were specified for this project were under-represented [*sic*] in the findings however, the underscreened population was reached” (p. i). They concluded that “locally appropriate strategies to increase screening among women who are hard-to-reach, be strengthened” (p. iv).

In a Canadian study exploring women-centred care in the context of CCS among ethnocultural groups, Bottorff et al. (2001) concluded:

Evidence from this study shows that women were attracted to the Pap test clinics because they expected to be able to discuss health care concerns with a female health care provider. We recommend, therefore, that the mandates of the clinics be revisited. Policies that support comprehensive women’s health services that encompass, rather than segregate, cancer screening are required. (p. 9)

Bottorff et al. identified three key elements of women-centred care as respectful and culturally appropriate interactions, importance of providing acceptable alternatives for women, and the need for comprehensive health services.

In a study among Hong Kong Chinese women on the effectiveness of nurse-led CCS programs, Cheng (1999) examined women’s perceptions and experiences of having Pap smears obtained by a female physician or nurse. Cheng reported that all smears taken were of good quality, which is consistent with literature reporting no difference in the

quality of specimens obtained by nurses or physicians. Cheng's study participants reported high levels of satisfaction with both providers, but they reported more satisfaction and confidence in the nurse, who relayed increased information CCS and the procedure. Cheng concluded that specially trained nurses could contribute to an increase in CCS rates among their generalized population.

Kottke and Trapp (1998), in addressing the utilization of nurses to assist in closing the gap between CCS participation rates and health care goals for CCS rates, concluded that specially trained nurses could collect high-quality Pap smears. They suggested that nurses could contribute to reaching identified health care goals for CCS, particularly among the Native American population.

Yabroff, Mangan, and Mandelblatt (2003) focused on the effectiveness of interventions to increase CCS participation. They conducted a systemic review of American literature published from 1980 to 2001 (i.e., 46 studies with 63 separate interventions) and reported that one of the most effective interventions to increase CCS was the introduction of CCS on demand utilizing NPs. This intervention increased CCS by 32.7%, as compared to 18.8% for individual reminders and 18% for single, culturally specific sociologic intervention utilizing lay workers. Yabroff et al. also found that self-reported Pap smear participation had an accuracy of 67% to 99% agreement. They concluded that self-reports are less reliable than medical records.

A Canadian Maritime study (Dell, 1999) on the use of gender-specific clinics to increase CCS rates identified barriers consistent with those in the literature, namely, gender and attitude of the provider, and the ability to develop a trusting relationship. Dell reported that many hard-to-reach women are not recruited through the conventional,

opportunistic CCS methods currently in place and identified Well Women's Clinics as a successful strategy in targeting women otherwise not attending CCS services.

Dell (1999) described Well Women's Clinics as health promotion services provided at accessible locations, with services often provided by female practitioners that may overcome many of the identified participation barriers. Dell cited the Cervical Cancer Prevention Network's suggestion that traditional and opportunistic screening may have reached the limit of its effectiveness and that the introduction of comprehensive Well Women's Clinics should play an important role in improving women's health. Dell also supported the increased utilization of the nursing profession in the CCS process. This approach for increasing CCS rates was echoed by the Women's Health Network Newfoundland and Labrador (2002). The Alliance for Cervical Cancer Prevention (2002a) also identified and recommended the use of trained, nonphysician Pap smear providers as a cost-effective alternative to make CCS services more available and accessible to women who need them.

Needs Assessment

Introduction

The purpose of the needs assessment is to provide an overview of the primary health care services provided by the AHAC. The researcher presents First Nations Aboriginal community characteristics, population, and demographics. This information is followed by a discussion of the nonmedical determinants of health, including environmental, social, political, and regulatory forces. The key reference question is, "How do these forces impact CCS participation among Aboriginal women?"

The First Nations Population

Health Canada (1999b) identified health determinants of the on-reserve Aboriginal population based on the 1996 census. Other researchers (Colman, 2003; Grace, 2002; Health Canada, 1999a, 2003; Stout, Kipling, & Stout, 2001; Young et al., 2002) provided data on the health status and determinants of health among on and off reserve Aboriginal women (see Table 4).

Table 4

Health Status and Determinants of Health Among Canadian Aboriginal Women

Indicator	Aboriginal Women	Canadian Counterparts	Comments	Source
Population	<ul style="list-style-type: none"> • 51% of total Aboriginal population • 42% between ages birth and 19 years • off-reserve population growing at 2.9%/year • on-reserve population 61.8% < 30 years (1999) • on-reserve population growing at 2.1%/year 	<ul style="list-style-type: none"> • 40.8% < 30 yrs. (1996) 	<ul style="list-style-type: none"> • First Nations (FN) population was younger than the Canadian population in 1999. • Aboriginal rate is 1.5 times higher than Canadian population rate. • Projected 20% FN growth rate between 1998 and 2008. 	Colman (2003) Health Canada (2003) Health Canada (1999b)
Life Expectancy	76.6 years (2000)	81.8 years (2000) 1990 = 11-year gap	On-reserve population	Health Canada (2003)
Birth Rate	1999: 23.0/1000 <ul style="list-style-type: none"> • 58% < 25 yrs • ages 15 to 19: 5 times national rate • ages 10 to 14 yrs: 9 times national rate 		FN 2 times the Canadian rate	Health Canada (2003)
Education Attainment	<ul style="list-style-type: none"> • Less than high school = 54% (on reserve) • Less than high school = 48% (off reserve) 	Less than high school = 35%		Health Canada (1999b) O'Donnell and Tait (2004)
Employment Income	Off reserve: \$17,382 On reserve: \$14,055 44% below low-income cutoff	\$26,474 (1995) 20% below low-income cutoff		Health Canada (1999b)
Smoking Rate	62% (ages 15+)	29% (ages 15+)	1997	Health Canada (1999b)

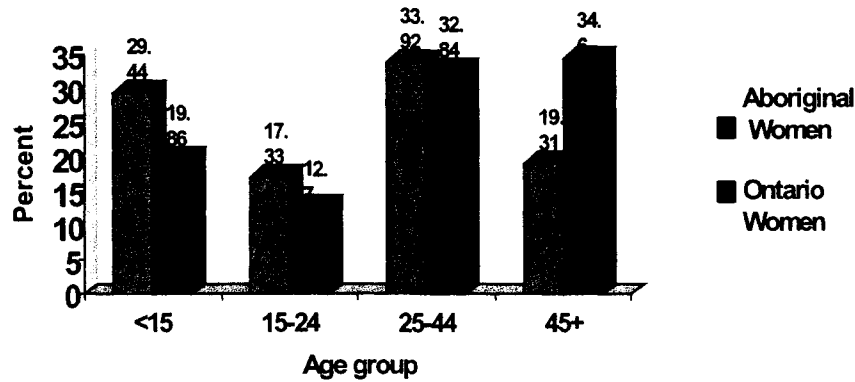
Colman's (2003) report was consistent with Health Canada's (1999b) report in identifying that higher rates of poverty, unemployment, and lower education attainment among Aboriginal women result in an overall poorer health status than their non-

Aboriginal counterparts. Health issues identified by Coleman for Aboriginal women include increasing rates of cervical cancer. The Romanow report (2002) acknowledged the poorer health status of Canada's Aboriginal population and the subsequent concerns arising from this known fact.

Grace (2002) specifically addressed Aboriginal women's health and attributed their greater health risks to their marginalized social position, resulting in detrimental lifestyles. Grace identified smoking rates for Aboriginal people as follows:

- ages 20-24: 72%
- ages 25-29: 71%
- On-reserve, Northwestern Ontario: overall prevalence = 56% versus Ontario = 31%
- 60% of Aboriginal women smoke daily, with 45% smoking > half a pack (i.e., 12-13 cigarettes) per day

Researchers have documented educational attainment, income level, and smoking status as factors associated with the development of cervical cancer in women (Claeys et al., 2002; Deacon et al., 2000; Lee et al., 1998; Young et al., 2000). Grace (2002) compared the age distribution between female Status Aboriginal women and their Ontario counterparts. The results depict a young and growing Aboriginal population (see Figure 1).



From "Aboriginal Women," by S. Grace, 2002, p. 360.

Figure 1. Ontario female registered Indian population and general population by age.

The 2001 Census Aboriginal population profile (Statistics Canada, 2003b) for the Rainy River District identified an Aboriginal population census of 3,630 (17%) out of a total district population of 22,109. Aboriginal women account for 1,855 of the total Aboriginal population, equivalent to approximately 50% and consistent with national gender percentages. According to local First Nations profiles based on 1996 census data, status on-reserve Aboriginal women total 1,258, excluding data representing Rainy River First Nations. From these data, one can then estimate the off-reserve population at approximately 600 (Statistics Canada). Of the total Aboriginal population, 2,590 are listed as registered status Aboriginals, with a median age of 26.4 (Statistics Canada). The age distribution characteristics reported for the female Aboriginal population are similar to that noted by Grace (2002), with 32% under 15, 17% ages 15 to 24, 29% ages 25 to 44, and 22% ages 45 and older. The use and application of these data with respect to CCS finds 63% of this female cohort between the ages of 15 and 65 years, which is the targeted cohort for annual CCS, as determined by this population's high-risk social

indicators. Using 63% as a measurement parameter and applying it to the First Nations Profile data, averaging for Rainy River First Nations, the researcher estimated that Aboriginal women ages 15 to 65 years living on reserve in the Rainy River District total 881. Added to the off-reserve estimate of 378, this calculates a target population of 1,259, which does not include Métis women who did not self-identify as Aboriginal on 1996 census returns. This number of women justifies the need for one full-time nursing professional exclusively dedicated to a CCS program for this target population. Another benefit could be enjoyed by non-Aboriginal women if such a program were offered to all women in the district.

Rainy River District education statistics for the female Aboriginal population contained within the Statistics Canada (2003b) profile identified 34.7% of those women ages 25 years and over have less than a high school education. The (2001) Statistics Canada census earning profile for employed Rainy River District Aboriginal women showed an average yearly income of \$19,075 (see Table 5).

Table 5

First Nation Profiles, Total Population 15 years Plus

Community	Education < Grade 9 %	Education Grades 9 - 13 without certification %	Total Females on Reserve, registered population March 2004	Geographic Zone
Couchiching	14	83	292	Code 1*
Lac La Croix	n/a	n/a	120	Code 2*
Naicatchewenin	24	88	122	Code 2
Nicickousemenecaning	0	80	58	Code 2
Seine River	n/a	n/a	158	Code 2
Stanjicoming	20	100	37	Code 2
Anishnaageg of Naongashiing	13	86	78	Code 2
Big Grassy	23	82	124	Code 2
Ojibways of Onigaming	9	87	269	Code 2
Rainy River	n/a	n/a	n/a	Code 1

* Code 1 located within 50 kilometres from nearest services centre; Code 2 located within 50 to 350 km from nearest service centre.

Comparing 2001 education census data to those in Table 5, the researcher concluded that there has been improvement in educational attainment among Aboriginal women; however, because it has been recorded for all area Aboriginal women, it cannot be generalized to the on-reserve population

Bruyere (1996) completed a needs assessment for the Fort Frances Area Tribal Health Authority to support lobbying efforts to obtain funding for an AHAC. Included within Bruyere's report are the following statistics, which are known to influence the development of cervical cancer:

- Among those Aboriginal women surveyed, 71% reported their first sexual encounter occurring prior to age 18 years.
- Among those women surveyed, 15% reported 2 or more sexual partners within the last 12 months.

- 36% of Aboriginal women reported last Pap test screening greater than 2 years ago.
- 74% reported having seen a primary care physician within the past year.
- 88% reported ever smoking with 67% identifying themselves as regular smokers

The researcher concluded that Aboriginal women continue to experience many of the socioeconomic conditions and sexual health risks identified in the chain of causation for exposure to HPV and the subsequent development of cervical cancer. Such socioeconomic inequalities contribute to disparities in the distribution of diseases, health status, and overall well-being that are currently reflected in the health status gap noted between Aboriginal and non-Aboriginal Canadians.

Geography

The catchment population for the AHAC associated with the research study includes all Aboriginal-identified people (Métis and registered status Indians) residing in the Rainy River District of Northwestern Ontario, which encompasses 10 First Nations communities; the towns of Fort Frances, Emo, and Rainy River; and many rural, unorganized townships.

The 10 First Nations communities cover a distance of approximately 41,000 hectares. All of them are accessible by road. Travel to and from the First Nations communities is primarily along secondary highways, with travel distances to primary health care services varying from less than 30 minutes to more than 2 hours under ideal weather conditions. This dispersion of First Nations communities impacts not only travel time but also individual time investments, accessibility to treatment, and willingness to access area health care services. The researcher suggests that these variables, combined

with data retrieved from the literature, negatively influence the priority rating and participation rates for CCS among on-reserve Aboriginal women.

Primary health care services are provided to area residents in Fort Frances, Emo and Rainy River. The AHAC, located on Agency 1 land bordering Fort Frances, provides community-based primary health care services at its fixed-facility site and on reserve through health offices to Aboriginal-identified persons. FNIHB and Band-employed community health nurses provide public health nursing services on reserve. The AHAC outreach programs were developed to target hard-to-reach Aboriginal women, thus overcoming many barriers to health care access previously experienced by these women.

Kreps and Chapelsky Massimilla (2002) reported on cancer communication. Their review of American literature regarding detection and screening behaviours revealed a positive trend in CCS and skin cancer screening if multiple media strategies such as telephone-delivered messages and interventions, including the use of outreach and mobile programs in the community to reduce access barriers, are integrated into screening programs.

Environmental Forces

The Rainy River District experiences extreme seasonal weather fluctuations: heavy snowfall and extreme cold during the winter, and high humidity and high temperatures during the summer. In recent years, extreme summer storms have resulted in the flooding or destruction of access roads to many First Nations communities. During these emergency conditions, access is restricted to either water or air travel. Winter storms also result in deteriorating road conditions and occasional road closures, thus increasing travel times and accessibility to and from these communities.

Routine medical travel for the on-reserve status Aboriginal population is provided through the Non-Insured Health Benefits division of Health Canada's FNIHB. Each First Nation community operates a medical van that is funded by the FNIHB. The van makes daily trips into area health care agencies. During extreme weather conditions when road travel is not recommended or is obstructed, emergency air transport is made available through the provincial ambulance service to on-reserve residents experiencing acute medical emergencies.

Political and Economic Influences

A Northwestern Ontario District Health Council (NWODHC, 2003) workshop summary acknowledged the uniqueness and remoteness of many First Nations communities. It reported that funding should be needs based and tailored to the communities' needs. Key health care decision makers attending this workshop agreed in principle to primary health care reform objectives, as outlined in the Kirby (2002) and Romanow (2002) reports, but they expressed concern related to the geographical and human resources issues specific to the region. For example, issues about the shortage of health care professions within the area are ongoing. Recent advocacy for the development of a northern medical school had been successful and is seen by the NWODHC as a partial solution to the recruitment and retention of family physicians to the region.

The NWODHC (2003) summary identified and discussed the compartmentalization of health services and the need to move toward a health care delivery model that is not primarily physician focused but one that includes other health care professionals. The participants agreed that the implementation of interdisciplinary

primary health care models is a cost-effective approach that will efficiently meet the needs of the public.

The promotion and integration of this model into the Ontario health care system has been financially supported through the Primary Health Care Reform Transition Fund (Health Canada, 2002c) to offset costs associated with changes to the system. Shah (2003) reported that current health reform goals, primarily the establishment of interdisciplinary health care teams and coordination and integration with other community health services, are imperative to improving accessibility to health care. Howard Hampton, Rainy River District MPP, supports a community-based primary health care delivery model involving communities' input and diverse needs. The AHAC has been a leader in the introduction of such primary health care services in the Rainy River District. Such models reduce the impact of fragmentation in the delivery of health care, reduce administration costs, increase accessibility, and increase efficient.

The AHAC implemented the delivery of community-based primary health care services in 1999. Primary health care services are provided to the Aboriginal-defined population through the utilization of an interdisciplinary health care team working in partnership with the Aboriginal community. The AHAC provides responsive health care guided by traditional cultural approaches characteristic of Anishinabe beliefs in combination with the Western model of health care (Bruyere, 1996). Communication and coordination of services and the promotion of cooperation with other local agencies is maintained within this health care model.

The beliefs and values incorporated into the AHAC delivery model encompass a respectful and culturally competent approach, recognition of the importance of family

and community, and the utilization of a health care team that best meets the needs of the clients (Bruyere, 1996). The Women's Wellness Program is one of many Western health practices promoted at the AHAC. This program addresses the cultural barriers that influence CCS participation and utilizes NPs supported by family physicians to deliver comprehensive primary health care services.

Trends in Health Care

Consistent with national reports, the NWDHC (2003) identified the area's Aboriginal population as young and growing, as opposed to the greying population among non-Aboriginals. Browne, Fiske, and Thomas (2000) studied First Nations women's encounters and experiences with mainstream British Columbia health care providers and their influence on access and utilization of health care services. Browne et al. concluded, "The women's stories highlight the importance of viewing their perspectives in terms of the larger social, economic and political forces influencing Aboriginal women's lives and encounters with the dominant health care system" (p. 27). They also recommended that primary health care for Aboriginal women be guided by policies that acknowledge Aboriginal women's central role as the gate keepers to health care for their family members. As such, they must be comfortable with and trust the services they receive.

Although previous studies have reported lower educational attainment and income levels in the Aboriginal population, recent census data have identified these determinants as increasing (Colman, 2003; Grace, 2002; Health Canada, 2003). As this population becomes more knowledgeable, higher expectations can be predicted for culturally oriented care specific to their unique health care needs. Browne et al. (2002)

acknowledged the influence of culture and identified tradition as a cornerstone of the health and well-being philosophies of Aboriginal people. Steven et al. (2004) investigated the influences of cultural beliefs and attitudes among women in Northwestern Ontario and identified these factors as important aspects when encouraging women from different ethnic and cultural backgrounds to attend preventive breast and CCS programs.

Finkelstein (2002) researched the factors associated with having preventative health services and identified that CCS is associated with the socioeconomic covariates of age, income, education, and place of residence. He also commented that women who do not have periodic health examinations are less likely to have preventive health screening than those who do attend period health examination. In his analysis of the data, Finkelstein found that women who visit the physician 10 times during the year are no more likely to have had a mammography or CCS than women who visit two or three times. He stated, “This suggests that physicians providing episodic care, or focusing on specific health problems, sometimes neglect elements of preventive care” (p. 1500). Finkelstein also noted that “residents of rural areas and Northern Ontario were less likely to receive testing” (p. 1500). In addressing the influence of rural and northern residency, Finkelstein attributed this finding to the shortage of physicians in these areas. He suggested:

Perhaps the physicians in rural areas are so busy that preventive testing is overlooked. A study of 108 community practices in Ohio observed that patients of physicians who saw a high volume of patients had lower up-to-date rates of preventive services. (p. 1500)

Finkelstein cited Hutchison, Abelson, Woodward, and Norman (1996), who surveyed Ontario physicians and found that “many reported that they provided less than satisfactory levels of preventative services” (p. 1500). This problem may be a direct result of the current physician shortage or economic incentives under the current Ontario physician reimbursement structure, or a combination of both. As with many other small, northern, rural communities, those in the Rainy River District face challenges in recruiting health care professionals, resulting in higher population-per-physician ratios.

Grace (2002) found that Aboriginal people have greater contact with nurses and less contact with family physicians (34.3% versus 8.9% for Ontario women). This may be attributable to the utilization of nurses for primary health care delivery in the North’s remote First Nations communities. Bruyere (1996) reported that although the Rainy River District Aboriginal population have higher rates of primary health care utilization than their area counterparts, she offered no explanation for their reported low preventative screening rates.

Gucciardi and Birnie-Lefcovitch (2002) addressed issues specific to Ontario’s rural and northern women. They reported that women living in northern and rural communities have lower educational attainment and income levels, increased tobacco use; and a higher incidence of cervical cancer. The cervical cancer incidence rate for Northwestern Ontario is 11.5 per 100,000, as compared to the provincial rate of 10.1 per 100,000 (Gucciardi & Birnie-Lefcovitch). Factors attributed to higher cervical cancer rates among Aboriginal women include a history of underscreening or never having been screened for a Pap smear. Barriers to seeking primary health care services for northern and rural women include extreme weather conditions, driving distances and subsequent

time investment, and the higher population-per-physician ratio noted in rural Ontario (1:1751 vs. 1:1105; Gucciardi & Birnie-Lefcovitch).

Gucciardi and Birnie-Lefcovitch (2002) cited a physician-based study in rural Ontario that identified the influence of gender on attendance for examinations such as Pap smears. The Alliance for Cervical Cancer Prevention (2002a) and Steven et al. (2004) also discussed practitioner gender and identified the utilization of female health care providers as more acceptable to women when considering participation in CCS.

The NWHU (2004), in partnership with the Northwestern Ontario Cervical Screening Advisory Committee, serving the Rainy River and Kenora districts, reported on the Northwestern Ontario NP CCS promotional campaign that ran from April 2003 to December 2003. NWHU identified continued barriers and gaps in each of their service delivery communities, noting a definite lack of access to care in Fort Frances and an increased access to care in smaller communities that have an NP and a full slate of physicians. The promotional campaign professionals reported:

When it comes to promoting a service that does not exist, many communities have a lack of physicians or health care workers to perform the Pap smear. Some communities in the Northwestern Health Unit (NWHU) received angry calls asking for their Pap smears to be done. The public related the promotion service with the ability to obtain the service. (NWHU, p. 10)

Comments on individual community activities, as made by the designated lead public health nurse from each community, reported CCS access barriers in the Fort Frances and Emo townships, supported by difficulties in getting appointments, confusing and inconsistent CCS recommendations by physicians, and limited clinic operational

hours. Comments from the small community of Rainy River reported only minimal barriers and gaps, noting that “women have good access to Pap smears. The female nurse practitioner tends to do most of the Pap smears and ongoing education. The women feel comfortable with having a female do this procedure” (NWHU, 2004, p. 27).

Stout et al. (2001) addressed health-seeking behaviour and access to services among Aboriginal women. They identified several barriers to accessing service: cultural insensitivity, lack of Aboriginal personnel, language differences, and geographical distance for health care services. In reviewing indicators for health and well-being, Stout et al. commented, “Aboriginal women and men are characterized by a health profile one would normally associate with the developing world” (p. 12). This conclusion was attributed to their marginalization in society and poorer health status indicators. Stout et al. also raised future concerns for sexual and reproductive health policy development specific to this young and growing population, related to higher rates of sexually transmitted infections and significantly higher HIV/AIDS diagnoses than non-Aboriginal women.

The demographic data of Aboriginal women residing in the Rainy River District, combined with their social health indicators, support the need to close the gap noted in their health status as it relates to cervical cancer. The young and growing age structure of this cohort poses a challenge to primary health care providers in meeting provincial goals related to CCS participation rates in this population.

The following discussion provides a summarized critical analysis of cervical cancer and CCS as a public health issue among Aboriginal women. The literature review

and needs assessment included a comprehensive discussion on the benefits and concerns related to CCS that readers are encouraged to revisit as needed.

CCO (2002b) reported that family doctors have a key role in CCS. CCO acknowledged that the majority of screenings are opportunistic in nature, meaning that when women present at scheduled doctor visits, it is noted that CCS is due, and it is subsequently provided. The issue surrounding opportunistic CCS is the fact that most women do not plan, prepare, or present specifically for it. Why? Although acknowledging the nature of opportunistic CCS currently practiced in most Canadian provinces, the researcher questions the impact and effectiveness of public health and media messages in changing behaviors and attitudes related to CCS, particularly those of marginalized women.

CCO (2002b) also identified its role in providing family physicians with support, stating that women will continue to go to the traditional clinical setting of their family doctor for CCS. Is there an underlying assumption that this is the preferred delivery setting and the preferred health professional identified by women? Is the utilization of family physicians in the traditional clinical setting who are performing routine health screening of the cervix among well women the most economically efficient use of resources in current day fiscal management and family physician shortages? The researcher found no evidence supporting women's preference for family physicians to perform this test. The literature review clearly identified women's preference for female practitioners and their acceptance of female nurses practicing in this role (Dell, 1999; Steven et al., 2004).

Numerous researchers have documented a dramatic increase in CCS rates when specially trained nurses have been utilized to address CCS in Aboriginal populations (Browne et al., 2000; Cheng, 1999; Lundgren et al., 2000; Yabroff et al., 2003). Kottke and Trapp (1998) discussed an education program developed in collaboration with the Mayo Clinic in Rochester, Minnesota, which trains nurses in effective communication skills and the collection of high-quality cervical specimens in an effort to address the concerns of increasing cervical cancer rates for identified high-risk groups, particularly Native Americans. Kotte and Trapp concluded, “The widespread availability of female nurses and the high quality of their work suggest that they can contribute to the Healthy People 2000 goals for collecting Pap test specimens” (p. 196). The successes reported by Kottke and Trapp in utilizing nurses and effectively reaching and screening high-risk women supports the use of nurses in early cancer detection.

Common themes throughout the literature suggest that a single strategy does not work for all the culturally diverse populations of women. Researchers have recommended culturally appropriate education and reminders for CCS (Kreps & Chapelsky Massimilla, 2002; Michel et al., 2003; Yabroff et al., 2003). CCS programs need to overcome cultural barriers to screening; integrate screening with other women’s health promotion programs; treat women with respect and listen to their concerns, and provide trained, female, nonphysician providers as a practical, cost-effective, and recruitment strategy.

The current payment structure in Ontario, in which the majority of independent physicians provide health care on a fee-for-service basis, may promote a silent reluctance within the medical profession to collaboratively work with primary health care nurses in providing early cancer detection services to well women. The OMA Task Force (2002)

reported that physicians may see 25 to 55 clients per day. This high turnover questions physicians' availability for health promotion and disease prevention discussions during client visits. Calculated on an 8-hr workday, this is equivalent to less than 9 minutes to no more than 19 minutes per client. Free market principles in this reimbursement structure, similar to that of "piecework," encourages provider incentive to supply as much service as possible. However, at the "demander" end, many clients may be left with unmet health care needs that continue to feed into the supplier induced demand for more health care visits and, ultimately, higher public health care costs.

Concerns about this public health issue arise when examining the literature on health status indicators among Aboriginal women. Aside from known, reduced participation rates in CCS are other indicators influencing health: lower socioeconomic status, lower educational attainment, increased smoking rates, and sexual behavior patterns that increase exposure to HPV. Exposure to identified risk factors must be addressed when examining ways to overcome barriers to CCS participation and reduce cervical cancer rates in this population.

Health Canada (2003) identified the Aboriginal population as young and growing, reporting higher actual and predicted rates of growth than the national average. Health Canada reported that nearly 42% of Aboriginal women are between the ages of birth and 19. This information supports the need for alternate unique strategies, interventions, and delivery approaches to address the issues surrounding CCS in this population. A recognized goal is the reduction of cervical cancer rates through education and increases in CCS participation in this population.

The implications for CCS include the development of provincial and federal partnerships with AHACs to reach high-risk Aboriginal women. The development of culturally sensitive CCS programs that meet the needs of Aboriginal women, conducted in alternate, inviting environments, have the potential to increase their CCS participation.

Overall, advocacy for diverse initiatives is needed to reach not only the Aboriginal high-risk population but also other subgroups identified as high risk because of their poor participation in CCS. Initiatives to complement physician services include the use of “Pap smear retrievers,” which may include the utilization of specially trained and supervised nurses within the interdisciplinary health care team to provide the education and screening components of CCS programs at nontraditional yet accessible locations. Renewed public advocacy and lobbying efforts for primary care that promote a system that utilizes advanced practice nurses and is responsive to the needs of all Canadians was noted by Armstrong (2001) while addressing health care reform issues. Using tools of change, First Nations communities and their leaders can also advocate for their members to participate in CCS through the utilization of culturally appropriate educational resources and community-based CCS programs.

The development of collaborative primary health care delivery teams that meet the required education, screening, and treatment components of a CCS program present an opportunity to reach unscreened and underscreened high-risk Aboriginal women and increase their CCS frequency to current, recommended guidelines. This approach is consistent with primary health care reform initiatives promoting the right care at the right time by the right professional. Ministers of health support the transition toward primary health care reform, which is committed to the prevention, promotion, and maintenance of

the health and well-being of Canadians. There is also a commitment by politicians to improve the health status of the Aboriginal population to that noted among non-Aboriginals. This initiative was supported with a federal allocation of approximately \$2 billion in the 2003 budget (Shah, 2003). Lobbying efforts are required to secure provincial and federal funding for the establishment of an automated recall system, with an accompanying mandate that all agencies involved in CCS services participate in the recall system.

Young et al. (2000) presented a picture of excessive cervical cancer rates and lower participation rate in CCS among Manitoba Aboriginal women, a group considered homogenous to Northwestern Ontario Aboriginals. Such studies have demonstrated that health states are not equally distributed between Aboriginals and non-Aboriginals. These rates are heavily felt when one considers the preventative nature of cervical cancer and the emotional and indirect costs associated with an illness as serious as cervical cancer.

The literature highlights the need for public health efforts to address this concern and how public health providers can overcome identified barriers to CCS. Ongoing monitoring during the implementation of CCS recruitment strategies will provide the evaluation tool needed to assess the success of any newly introduced initiative targeting Aboriginal women.

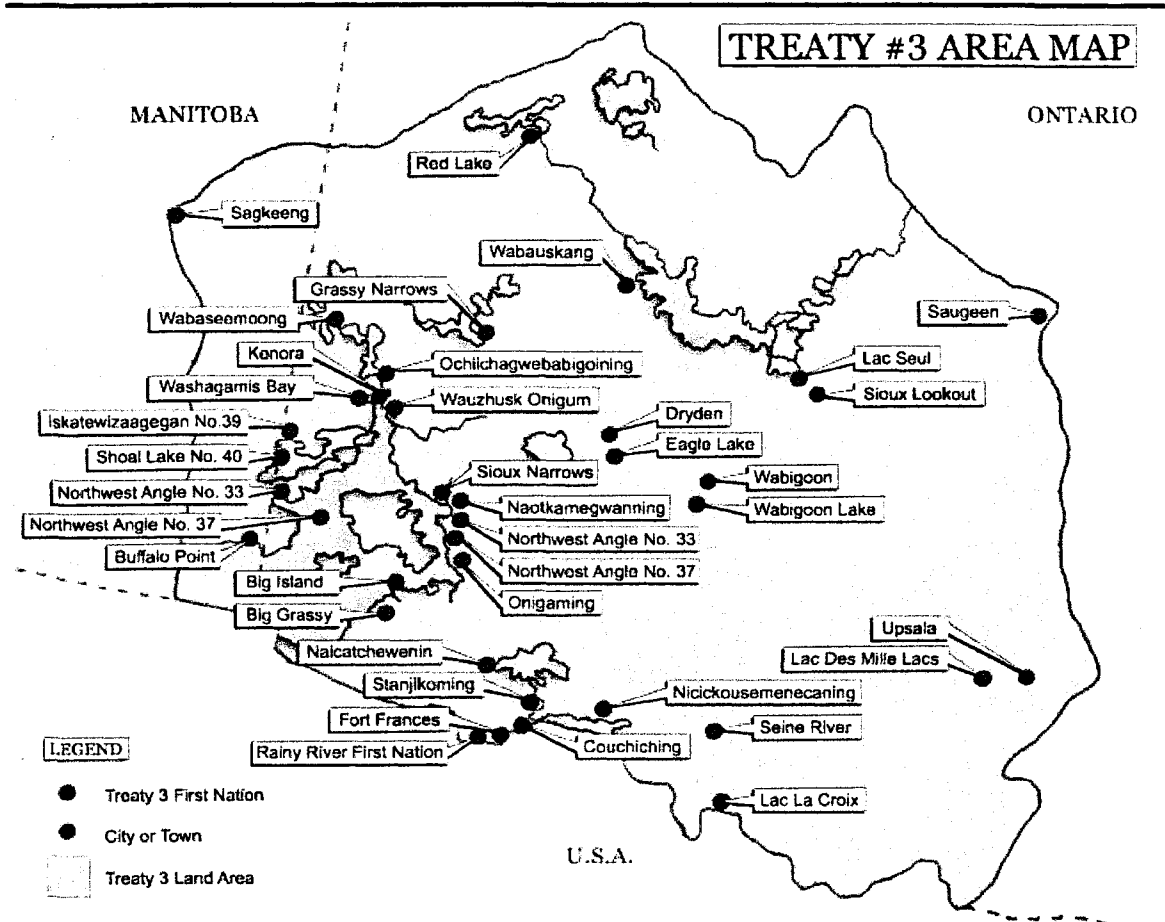
Methods

This study evaluated an AHAC initiative to reach Aboriginal women, who have been identified at high risk because of their poor participation in CCS and their increased exposure to the risk factors associated with the development of cervical cancer. The AHAC that the researcher contacted to participate in this study employs NPs and

registered nurses as members of their interdisciplinary health care team who provide the educational and screening components of their CCS program. CCS services are offered to urban Aboriginal woman and rural, on-reserve Aboriginal women through decentralized clinical services.

Setting

The study was conducted in the Rainy River District of Northwestern Ontario, selected because of its proximity and the researcher's familiarity with the surrounding First Nations communities and the local AHAC. The target research group consisted of self-identified Aboriginal women residing in a Treaty 3 First Nation community and their urban Aboriginal counterparts residing in Fort Frances, Emo, or Rainy River. The map identifies the location of the First Nations Treaty 3 communities; however, the townships of Emo and Rainy River are not shown. Rainy River is situated near the southern Ontario Manitoba border; Emo is located equidistance between Fort Frances and Rainy River and also borders the United States (see Figure 2).



From "First Nation Profiles," by Indian and Northern Affairs Canada, 2004, Retrieved April 15, 2004, from <http://www.treaty3.ca/pages/map.html>

Figure 2. Treaty 3 area map.

Study Population

Phase 1 of the study surveyed district Aboriginal women aged 19 to 69 who were asked to participate by completing a questionnaire with the researcher. The researcher recruited the participants through individual communication with First Nations community health representatives, health nurses, health directors, and urban Aboriginal agencies. Research forms outlining the overall purpose and objectives of the study and participant letters were forwarded to all stakeholders (see Appendices A, B, & C for complete forms). Eligible women meeting the age and ethnic background criteria were included in the study group; women who reported having had a total hysterectomy not

associated with cervical cancer were excluded from participation. All participating women provided written informed consent after reviewing the participant letter. The researcher reaffirmed to the participants that any information arising from the interview would remain confidential. A convenience sampling ($N_1 = 109$) consented to participate in the study, representing each of the 10 First Nations communities and the towns of Fort Frances, Emo, and Rainy River. In total, 109 women were surveyed (70 on reserve, 29 off reserve, and 10 urban Métis).

Census data from Statistics Canada (2003b) were used to determine population proportion sample sizes (see Appendix D). An expected proportion of 36% was derived from a (1996) needs assessment completed by the AHAC that reported 36% of on-reserve Aboriginal women surveyed reported last CCS more than 2 years ago. Using a Z-alpha for a confidence interval (CI) of 1.64 and a percent error of 10%, the researcher performed sample size calculations using an online Webulator. Calculations determined 2 samples of 58 participants each were required to represent the on-reserve female cohort and the urban, off-reserve participants. Nonprobability convenience sampling was then employed to recruit study participants.

The use of nonprobability sampling does not allow for a claim of representativeness to the general population because the probability that a person will be selected is not known (Neutens & Rubinson, 2002). Convenience sampling style selects participants according to their availability and willingness to participate. It is often referred to as the “captive-audience” approach (Neutens & Rubinson). The convenient nature of this sample, combined with differences between the women who volunteered

and those who did not, makes this sample of surveyed women not necessarily representative of the women who chose not to participate.

During phase 2 of the study, which was conducted between November 15, 2004, and November 19, 2004, the researcher surveyed a sample of AHAC Aboriginal women's clinical records ($N_2 = 341$). Inclusion for clinical review was each client having had at least one recorded visit to the AHAC nurse practitioner between November 1, 2003, and November 1, 2004. Criteria for inclusion in the clinical audit phase of the study were similar to that for Phase 1, targeting women aged 19 to 69 years of age, with no past history of hysterectomy secondary to cervical dysplasia or cancer.

Phase 2 of the study consisted of a collaborative evaluative design, with the AHAC partnering with the researcher to evaluate their Well Women's Program activities. The AHAC executive director presented the study proposal to the board of directors, who approved the process and provided written consent to proceed with the study (see Appendices E & F). Knowledge of the proposed research prior to data collection was a potential source of bias that may have influenced AHAC practitioners' CCS practices prior to the study period. Peer review and approval of the study proposal were obtained in August 2004 from the Ethical Review Board of Lakehead University, Thunder Bay, Ontario, Canada.

Data Collection Instrument

The researcher adapted the questionnaire utilized in the study from three culturally sensitive and validated questionnaire samples (see Appendix G for complete references). Permission to access the questionnaires was obtained electronically and verbally from the questionnaire developers. The participant questionnaire utilized in the

study was predominantly derived from the instrument developed by Dignan et al. (1996) and cross referenced to the instrument developed by Steven et al. (2004). NP experiences and satisfaction questions were borrowed from the MOHLTC (2003) upon consent from Dr. A. Dicenso. The replication of these previously tested and validated questionnaires strengthened the generalization of the study's findings and the reliability of this tool to be used in other similar target groups.

The questionnaire collected self-reported data on CCS knowledge, intentions, CCS practices, and individual experiences and level of satisfaction with NP health care service delivery (see Appendix H). The researcher acknowledges that self-reports of CCS history may have been inaccurate among the study participants and CCS participation less likely for those not volunteering to participate.

The researcher administered the questionnaire in the community health offices of First Nations, women's homes, and workplaces on and off reserve between August 20, 2004, and November 1, 2004. Each interview required approximately 20 to 25 minutes to administer. During the interviews, the researcher's approach ensured a comfortable, nonthreatening atmosphere and promoted open communication. Participants were encouraged to respond freely to the open-ended questions included in the instrument. No language barriers were encountered because all of the women who were surveyed spoke English.

Phase 2 of the study, a clinical chart audit, utilized a simple screening format developed by the researcher using process indicators identified for screening, diagnosis, and treatment (PATH, 2002). The researcher accepts that the clinical chart audit may not have accurately reflected CCS participation rates based upon reports made by AHAC

staff that many of their clientele also access primary health care services from other area physician clinics. However, the researcher felt that the review would provide insights into NP screening patterns and that the AHAC's Well Women's Program would be able to learn from the findings and identify areas for improvement.

The evaluation of clinical records examining participation in CCS over the 5-year period since the AHAC program has been operational was conducted to identify trends among NP clients (see Appendices I & J for complete audit format). The AHAC was an active participant in this phase, providing medical record clerical staff to assist in identifying records eligible for review. Strict confidentiality guidelines were followed throughout the clinical review process.

Measurement and Data Analysis

Phase 1 individual surveys assessed:

- Participant demographic and socioeconomic characteristics.
- Knowledge related to cervical cancer and CCS through the use of six specific questions in the questionnaire.
- CCS history, practitioner gender preference, and intention for future CCS.
- Risk factors associated with the development of cervical cancer.
- Cultural practices and traditional medicine utilization.
- Primary health care practitioner utilization.
- Experiences and level of satisfaction related to NP encounters.

The researcher conducted an analysis of the data using the SPSS software, Version 12, to describe the data from both phases of the study and to identify any significant differences among on-reserve, off-reserve, and Métis women. The determinants of health

model provided the theoretical framework for this research because the model identifies and recognizes multifactorial indicators that influence health behaviour and, ultimately, health outcomes.

Results

Characteristics of the Interviewed Cohort

Demographic and health status characteristics of the surveyed women

($N_I = 109$) are illustrated in Figures 3 and 4. At the time of this study, approximately two thirds of the women who participated were between 25 and 44, with a mean age of 38.32 years; high school graduates; employed full time; and married. They self-identified as the head of their households and resided on reserve. Age distribution findings are consistent with Grace's (2002) age distribution data shown previously in Figure 1.

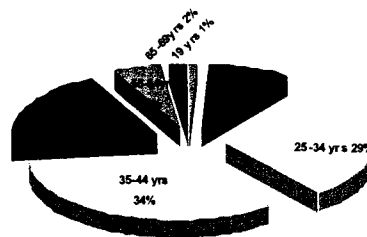


Figure 3. Questionnaire participant age distribution.

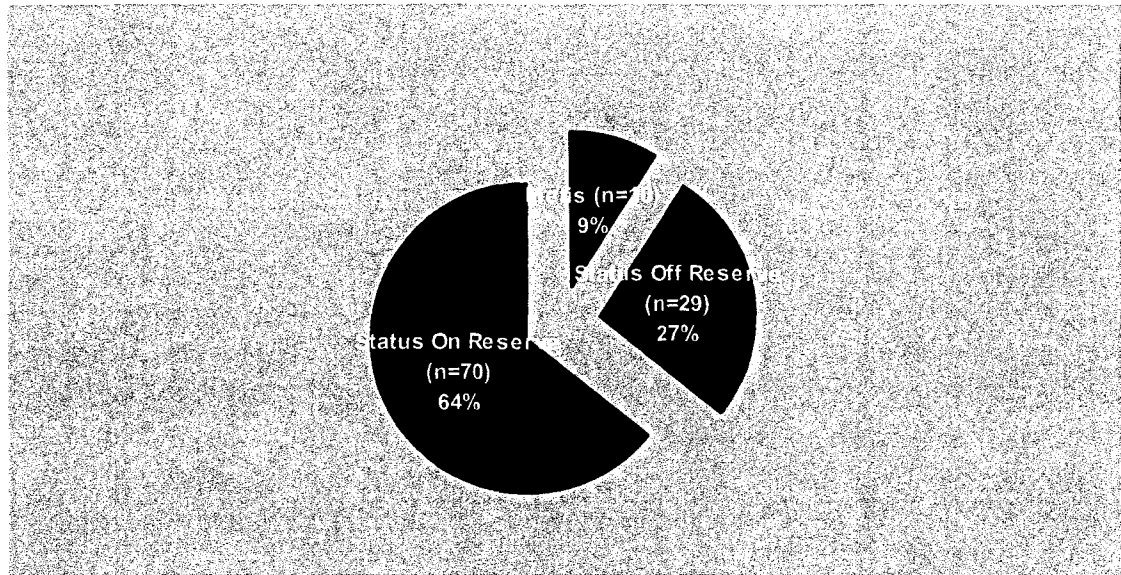


Figure 4. Self-identified Aboriginal status, questionnaire data.

Participants' responses to general sociodemographic questions about themselves are presented in Table 6. Approximately one third of the women reported household incomes of less than \$20,000 per year. This is consistent with the information presented in Table 4, which illustrated the health status and determinants of health among Aboriginal women. The findings showed that the status of the 70 status on-reserve women is more financially disadvantaged, with 23% of them reporting total household incomes of less than \$11,000 in the past year, as compared to 7% for their off-reserve counterparts, and 20% for their Métis counterparts. Results identified that among the 109 women surveyed, status on-reserve women have higher rates of unemployment and lower educational achievement. All 10 of the Métis women reported being high school graduates, as compared to 19% of the on-reserve women. Forty percent of the on-reserve cohort reported having less than a high school education, as compared to 17% of the

29 Aboriginal women living off reserve. Status on-reserve women were also more likely to report unemployment (26%), as compared to 17% of their off-reserve counterparts.

Table 6

Sociodemographic Descriptive Statistics of Participants

	Total	Métis	Status Off-Reserve	Status On-Reserve
Educational Attainment				
< High School	30%	0%	17%	40%
High School Graduate	18%	20%	17%	19%
> High School	51%	80%	66%	41%
Occupation				
Full-Time Employment	64%	60%	72%	61%
Part-Time Employment	13%	20%	10%	13%
Not Employed/Homemaker	23%	20%	17%	26%
Income				
< \$10,999	18%	20%	7%	23%
\$11,000-13,999	8%	10%	7%	9%
\$14,000-19,999	6%	0%	10%	4%
\$20,000-29,999	15%	30%	10%	14%
\$30,000-39,999	17%	10%	14%	20%
> \$40,000	34%	30%	52%	27%
Head of Household	68%	60%	69%	69%
Marital Status				
Married/CLS	62%	60%	69%	60%
Separated/Divorced	16%	30%	7%	17%
Never Married	19%	10%	24%	19%
Widowed	3%	0%	0%	4%

Q1 on the survey questionnaire asked the participants to rate their health. The researcher asked the question, "Overall would you say that your health is excellent, good, fair, or poor?" Table 7 summarizes responses per group to this question. The 29 status off-reserve women (45%) were less likely than the 70 status on-reserve women (60%) to rate their health as good (45%) and more likely to rate their health as fair (41%), as compared to status on reserve women (24%). Of the 10 participating Métis women, 7 reported the presence of a chronic illness. Comparative results were 59% for off-reserve women and 39% for on-reserve women.

The chi-square test of independence was used to determine if a significant relationship existed between status women's residency (i.e., on reserve vs. off reserve) and their self-rated health status. Preliminary descriptive analysis showed that more status off-reserve women reported their health as fair, as compared to the on-reserve women. The Métis women were excluded from the analysis because of their small sample size. Analysis included only self-ratings of good and fair health status. The chi-square test ($\chi^2 = 2.945, p = .229$) indicated no significant relationship between status on-reserve women and status off-reserve women on self-ratings of health status.

Table 7

Self-Rated Health Status

Rating (Participants)	Métis (10)	Status Off Reserve (29)	Status On Reserve (70)	Total $N_1 = 109$
Excellent	20%	14%	16%	16%
Good	60%	45%	60%	56%
Fair	20%	41%	24%	28%
Poor	0%	0%	0%	0%

The women were asked to respond openly to the question, "Where do you go to get health information?" The researcher would prompt only by saying, "Anywhere else." If the participants gave other responses to this question during the course of the interview, these answers were included. Figure 5 summarizes the participants' cumulative responses to this question. Of the respondents reporting "other" as a health information source, 55% identified the Internet as a health information source; 28% identified other health care professionals, including the provincial Telehealth service. Findings clearly showed that the most common source for health information among these surveyed Aboriginal women is the First Nations community health nurse or a health representative (39%). Combining this with the percentage of women who reported the NWHU as a

resource, the results showed that 51% of Aboriginal women prefer one-to-one contact with a health professional for health information.

Logistic regression analysis was conducted between the dependent variable (i.e., status on-reserve residency) and three identified health information source covariates: radio and television, newspaper, and community health nurse. The analysis determined that the 70 status Aboriginal women living on reserve were significantly more likely to access the community health nurse for health information than either radio, television, or newspaper sources, finding an OR of 4.641, $p = .004$, with a CI of 1.639 to 13.141. The data showed that radio and newspaper media sources together only account for 15% of reported health information sources.

Additional logistic regression was conducted to determine any relationship among the three information covariates listed previously and correct knowledge scores on 5 specific cervical cancer questions (see Appendix H, Q16, 36, 37, 38, & 39). Analysis found no significant relationship between correct knowledge scores on specific cervical cancer questions and the three covariates in the analysis (community health nurse for health information, OR = 1.821, $p = .141$, with 95% CI = .819 - 4.047; television, radio health information, OR = .750, $p = .690$, with 95% CI = .183 - 3.082; newspaper health information, OR = .892, $p = .898$, with 95% CI = .156 - 5.104).

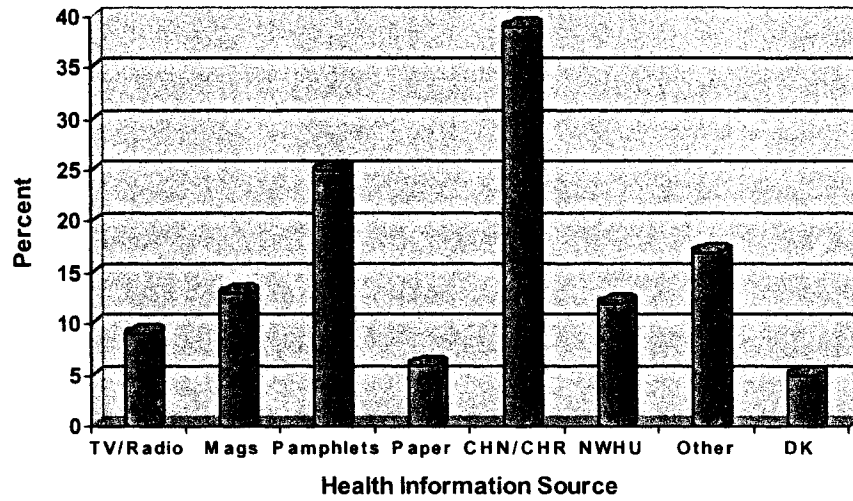


Figure 5. Health information access sources.

Characteristic of the AHAC NP Clients

Similar age, status, and residency proportions were observed in the AHAC NP client clinical records reviewed ($N_2 = 341$) and the questionnaire (see Figures 6 & 7). An age comparison between the questionnaire cohort and the audit cohort is shown in Table 8.

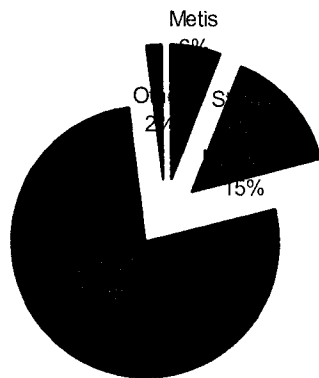


Figure 6. Aboriginal status, AHAC data.

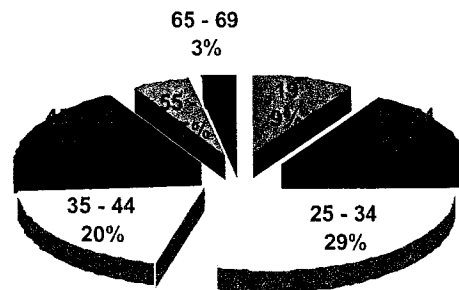


Figure 7. Age distribution, AHAC data.

Table 8

AHAC and Questionnaire Age Descriptive Statistics

	Mean	Standard Deviation	Minimum	Maximum
Participant age in years ($N_1 = 109$)	38.32	10.808	19	69
AHAC client age in years ($N_2 = 341$)	35.46	12.877	19	69

The researcher reviewed records to identify the year of first visit to the AHAC. For those clients between the ages of 19 and 69 who visited the NP between November 1999 and November 2004, there was an equal distribution of approximately 17% for the first visit to the AHAC for each operational year. Specific results for the year of first visit to the AHAC are as follows:

- 1999 - 16%
- 2000 - 18%
- 2001 - 16%
- 2002 - 19%
- 2003 - 13%
- 2004 - 16%

This percentage of new clients each year did not take into account clients outside of the study's target age range and gender, nor did it account for new clients accessing other interdisciplinary health professionals working at the AHAC.

Primary Health Care Utilization: Questionnaire Data

Examination of self-reported primary health care utilization data is illustrated in Figure 8. Primary health care utilization patterns revealed that 58% (64) of the 109 women surveyed reported having attended annual physical examination. The majority of

these 64 women (70% [45]) reported that their annual physical exam was conducted by their family physician.

Of the 109 women surveyed, 33% (36) reported never having visited the AHAC NP. The status on-reserve women were the most likely to have ever seen an NP (78%[55]), as compared to the status off-reserve (67%[19]) and Métis women (40%[4]). As predicted, the 29 status off-reserve women had higher reports of the AHAC being their usual primary health care source (38%[11]), as compared to the status on-reserve (20%[14]) and Métis (20%[2]) women.

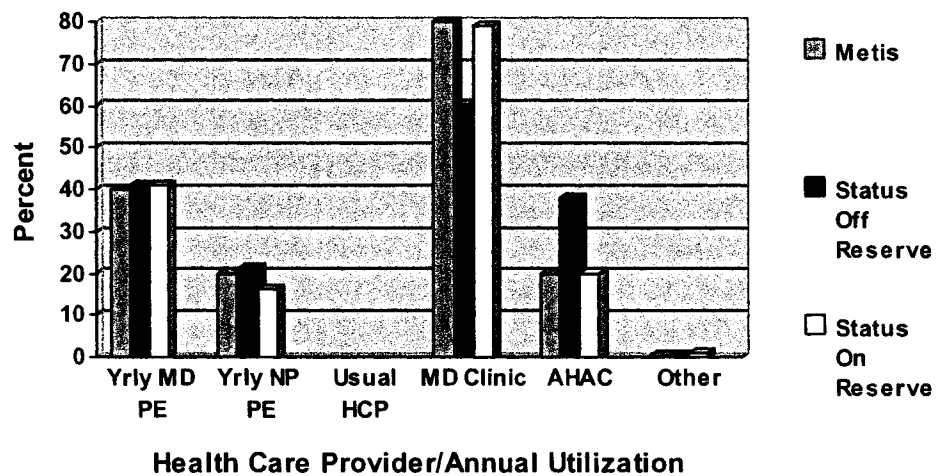


Figure 8. Self-reported annual exam and primary health care provider.

The participants were asked, “Where do you go when you need advice about your health?” in an open-ended format. Responses were categorized by frequency of reports: medical professional, healer/medicine man, family member, friends, the Internet, and don’t know. Participants were cued with the statement, “Anyone else?” to gain further information regarding where they would seek health advice. Results showed that 82% (89) reported they would first go to a medical professional for advice, followed by a

family member, friends, or the Internet. Each response accounted for 6%. Only 1% of responses identified the Aboriginal healer as a source for health advice. However, data from second responses cued by the researcher found that Aboriginal healers accounted for 3% of responses, with medical professionals continuing to top the list, gaining 54% of alternate choices for health advice. This result was consistent with previous findings that showed that the study participants seek health information primarily from community health nurses.

The participants were then asked, “Where do you go for health care when you are sick?” in the same format, including cues for a second response. Responses showed that 58 % would go a physician clinic, 23% would go to the AHAC, and 11% would go to a hospital’s emergency department. This result was reflective of questionnaire participant reports, indicating that 25% of the surveyed women consider the AHAC as their usual place for primary health care services.

Primary Health Care Utilization: AHAC Data

Background information on the AHAC’s physician and NP staffing characteristics, completed by the AHAC executive director, is shown in Table 9. NPs are full-time employees, and medical staff are employed on a contractual basis. Physicians currently deliver 2.5 days per week of primary health care. From 2001 to 2004, physicians provided services 2 days per week and one day per week from 1999 to 2000.

Table 9

Number and Gender of NPs and MDs in Practice: AHAC Data

Year	2000	2001	2002	2003	2004
Physicians	M	M	M	M, M	M, M
Male (M)/Female(F)					
NPs	F	F	M, F	F, F	F, F
Male(M)/Female(F)					

A review of clinical records showed that 67% of the 341 clients meeting eligibility criteria for audit had seen an NP between one and 3 times during the past year. Of those who saw the NP in past year, 67% (226) had not visited the AHAC-attending physician that year. The reason may be related to the number of questionnaire respondents who did not name the AHAC as their primary point of entry into the health care system and who may see their family physician at another health care location. These findings may also be related to the fact that the AHAC contract physicians do not provide decentralized on-reserve services. Rather, all decentralized primary health care services provided by the AHAC are delivered by an NP.

Figures 9 and 10 show AHAC NP and in-house physician utilization for clients who visited an NP between November 2003 and November 2004. Because of inconsistent records indicating primary care physician location, the data are reliable only for AHAC physician utilization, not overall NP client physician utilization. Many clients access physician services at other agencies.

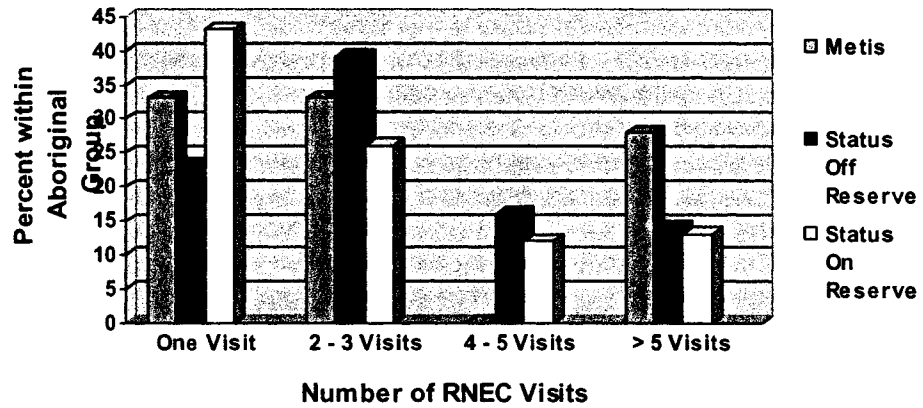


Figure 9. AHAC NP utilization November 2003 to November 2004, Females aged 19 to 69.

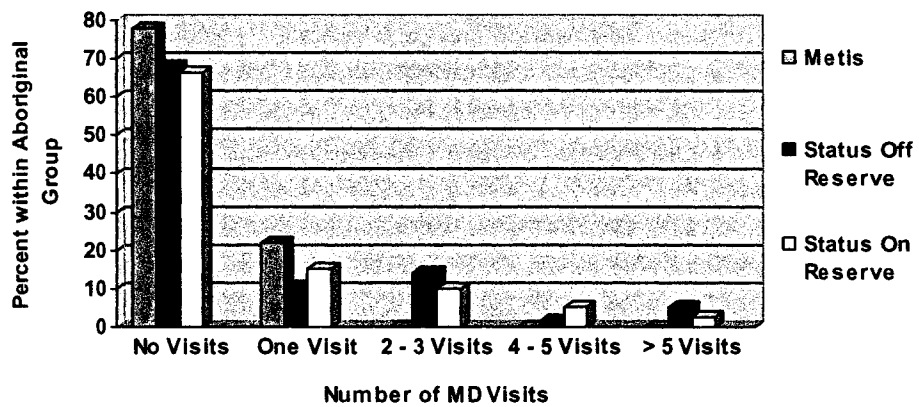


Figure 10. AHAC MD utilization for NP clients November 2003 to November 2004, Females aged 19 to 69.

Cultural Practices: Questionnaire Data

Participants completing the questionnaire ($N_1 = 109$) were asked questions about health care, including their use of Aboriginal cultural practices or customs to stay healthy or treat specific health conditions. One respondent, who identified herself as a healer,

advised that according to Elder and cultural beliefs, the types of remedies used upon the recommendation of healers are not to be disclosed. Respecting this cultural belief, the researcher restricted questions to subsequent respondents, asking only about their tradition medicine practices. Of those surveyed women who reported having used traditional medicines, the majority identified herbal remedies as health care interventions that they use for health maintenance; improvement in mental, physical, or spiritual well-being; or for healing purposes.

Of the 52 participants who reported ever using traditional Aboriginal remedies, 18% use such remedies on a frequent basis, 47% use them on an occasional basis, and 35% seldom use them. As expected, a greater percentage of on-reserve Aboriginal women reported accessing services from healers (60%) and using cultural remedies (59%), as compared with the surveyed Métis (20% & 40%, respectively) and off-reserve women (24% & 41%, respectively). Logistic regression analysis was utilized to determine any significant relationship between status Aboriginal women living off or on reserve and their ever having been to an Aboriginal healer. Métis women were excluded from the analysis because of their small number. Analysis found no significant relationship between status on-reserve and status off-reserve women in their reports of ever having been to an Aboriginal healer (OR = 1.885, $p = .161$ with 95% CI = .777 - 4.576).

The participants were asked additional questions regarding their individual cultural practices (see Appendix H, Q47, 49, 51, 52, & 53). Figure 11 summarizes their responses. Data arising from responses showed that 87% of on-reserve women, 76% of

off-reserve women, and 70% of Métis women reported using traditional tobacco.

Responses to using cultural traditions or practices to stay healthy found 41% of on-reserve women engage in traditional practices to stay healthy, as compared to 38% of the off-reserve women and 20% of Métis women. Additional tests of significance were conducted for each question to determine if any relationship existed between Status women's residency, on versus off reserve, and their participation in cultural traditions.

Logistic regression results were:

- Ever to Healer: OR = 1.885, $p = .161$, 95% CI = .777 - 4.576
- Ever Traditional Remedies: OR = 4.714, $p = .002$, 95% CI = 1.777 - 12.507
- Cultural Customs to Stay Healthy: OR = 1.157, $p = .747$, 95% CI = .476 - 2.813
- Attend Gatherings: OR = .582, $p = .566$, 95% CI = .092 - 3.686
- Use Traditional Tobacco: OR = 2.157, $p = .171$, 95% CI = .717 - 6.488

As predicted, status on-reserve women had higher reports on all the cultural covariates measured; however, this difference was only significant in reports of ever having used traditional remedies for health problems.

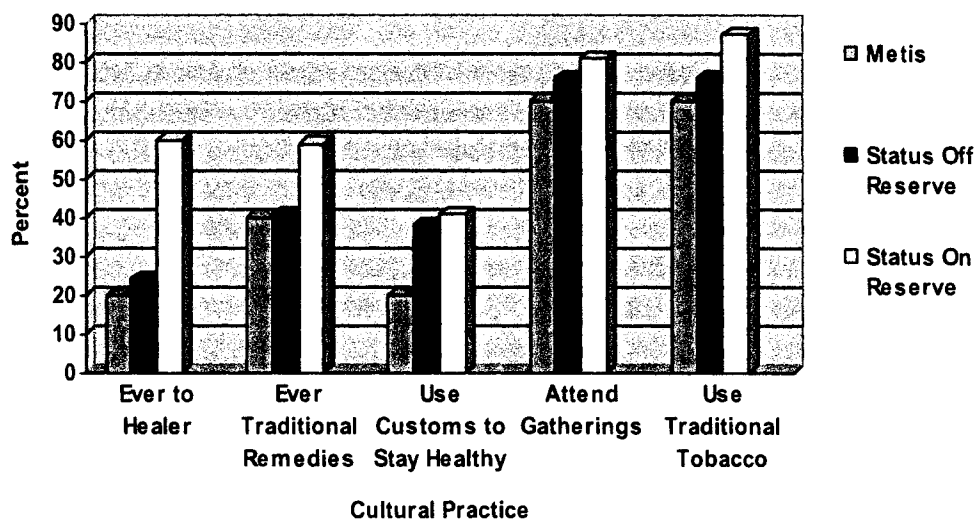


Figure 11. Participants' cultural practices.

Primary Health Care Practitioner Gender Preferences: Questionnaire Data

The participating women ($N_1 = 109$) were asked questions about the practitioner who did their last Pap test, whether the practitioner was male or female, and if the practitioner's gender made any difference test (see Appendix H, Q24,25, & 34). If the participants identified practitioner gender as making a difference, the researcher asked them if they preferred a male or female practitioner to do their Pap test (see Figure 12). Findings showed that 61% (66) of the 109 women surveyed reported that practitioner gender does make a difference. When gender was identified as making a difference, the majority (95%) of the women preferred a female practitioner to collect the specimen. Of the women reporting that a female practitioner performed their last Pap test, 53% had a Pap test done within the past year, as compared to 41% who had a male perform their last Pap test. One freely volunteered response to gender preference inquiry was that "a female doesn't make me feel stupid when I ask questions."

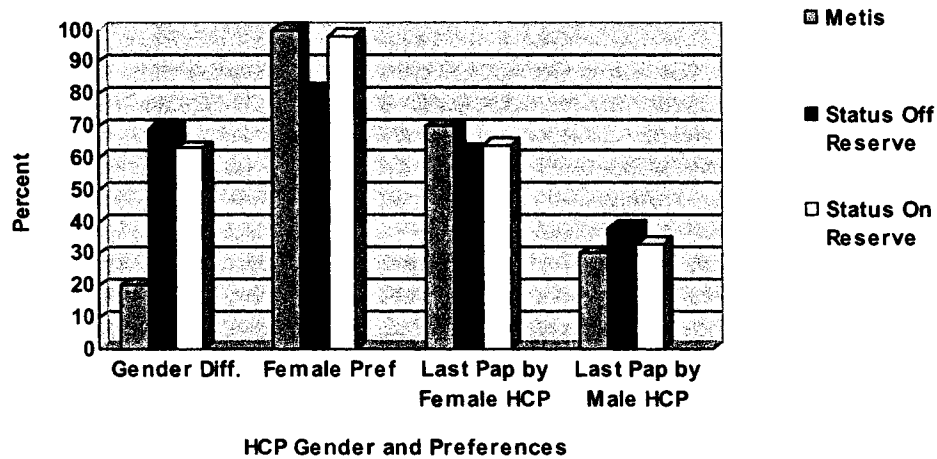


Figure 12. CCS practitioner characteristics and preferences.

The chi-square test of independence was used to answer the question, “Do reports of practitioner gender differences influence Pap testing having been done within the past year?” Findings concluded that there was no significant difference between having had a Pap test done within the past year and whether or not a male or female practitioner had performed the test (Pearson chi -square [$n = 107, df = 1$] = 1.470, $p = .225$).

Additional chi-square analysis concluded that among this sample of women surveyed, reports of practitioner gender making a difference in having a Pap test had no significant relationship to having a Pap test within the past year (Pearson chi-square [$n = 105, df = 1$] = .178, $p = .673$). There was no significant relationship between practitioner gender preference and status women’s residency on or off reserve (chi-square [$n = 96, df = 1$] = .403, $p = .535$).

Cervical Cancer: Screening, Knowledge, and Intention

Figures 13 and 14 show CCS data reported by the participants ($N_1 = 109$) and AHAC audit data ($N_2 = 341$) for CCS. Overall, among the women surveyed in the study, more than 95% reported having ever had a Pap test, 81% reported having had a Pap test

within the past 2 years, and 7% reported last Pap testing as being more than 5 years ago. Results showed that 76% of status off-reserve women, 74% of status on-reserve women, and 70% of Métis women surveyed reported having Pap testing done within the past 2 years.

Clinical record data presented in Figure 14 showed that 58% of status off-reserve, 55% of status on-reserve, and 64% of Métis female client records audited had reports of Pap testing done within the past 2 years. This disparity between self-reported Pap testing and clinical record Pap test data is attributed to AHAC clients seeking Pap testing services through their family physician’s private practice clinic.

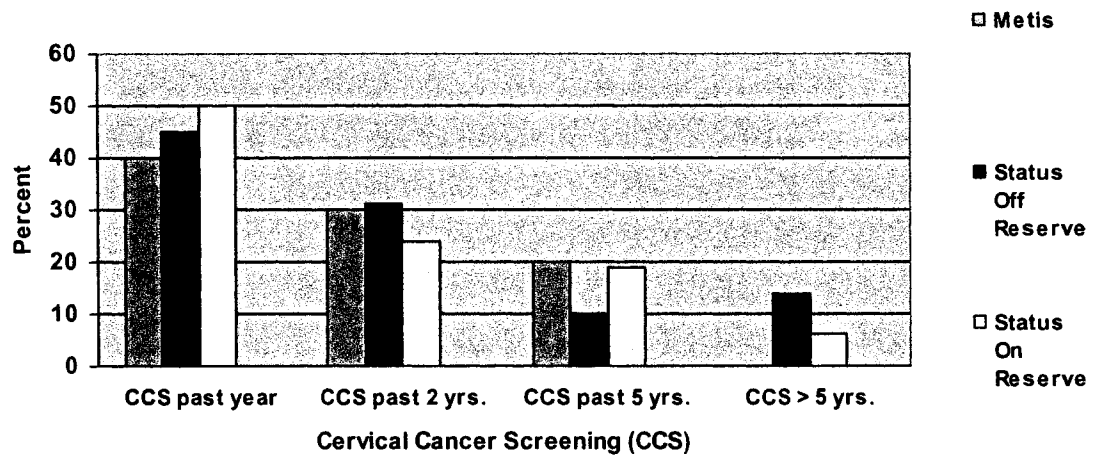


Figure 13. Self-reported CCS history.

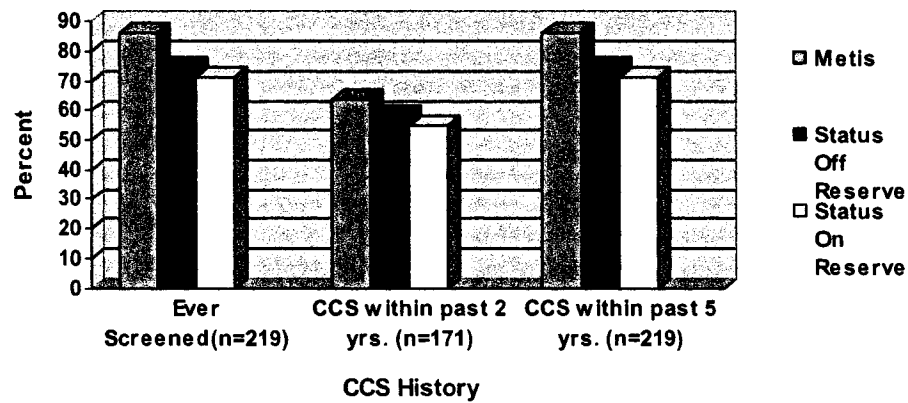


Figure 14. CCS history, AHAC data.

The AHAC documented that no CCS strategy is currently in place, indicating to the researcher that all NPs monitor their clients' CCS history and provide opportunistic screening utilizing OMA guidelines. The AHAC executive director also commented that to date, no reports have been completed for CCS data; however, she rated the agency's CCS services as excellent.

Figure 15 shows AHAC data for CCS frequency among those records included in the audit ($N_2 = 341$). Audited data found that virginal women included in the data set and not ever screened accounted for approximately 2% of the total population of NP clients over the audit period. Over the 5 years of AHAC operation, an additional 5% to 8% per year of NP female clients between ages 19 and 69 attending NP Well Women's Clinics are not screened because of a history of hysterectomy. Consistently throughout the years, on average, among those charts reviewed, 2% to 3% per year of women visiting Well Women's Clinics offered by the NPs refuse CCS. The researcher concluded that more women are seen at the AHAC's Well Women's Clinics than the recorded percentage of those women who obtain CCS. For the remaining records, 76% of records had CCS

documented either once or twice over the 5-year period. Considering that the AHAC is not the primary health care agency for many NP clients, these findings showed NP thoroughness in health screening during client contacts.

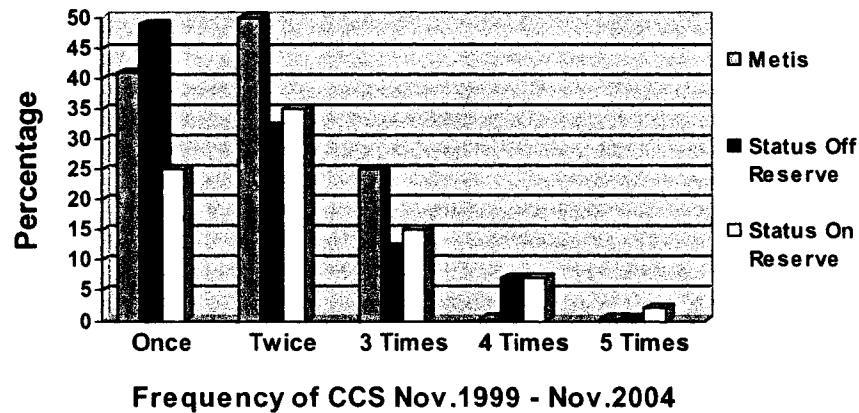


Figure 15. Frequency of CCS over past 5 years, AHAC data.

An examination of AHAC NP client records showed that over the past 2 years, 75% of recorded CCS had been conducted by an NP. Over this same time period, only one specimen was returned as unsatisfactory. This confirms the research in the literature: Nurses demonstrate clinical efficiency in the collection of cervical smears.

Figure 16 shows data retrieved from the AHAC's records concerning which practitioner performed recorded CCS. During the AHAC's first operational year, only 50% of recorded CCS had been performed by an NP. By year 5, 78% of documented CCS had been performed by an NP. This increase in CCS performed by NPs over the 5 years may be due to decentralized on-reserve clinical services delivered by NPs and perhaps due to increase accessibility among Aboriginal women to a female practitioner to perform this test.

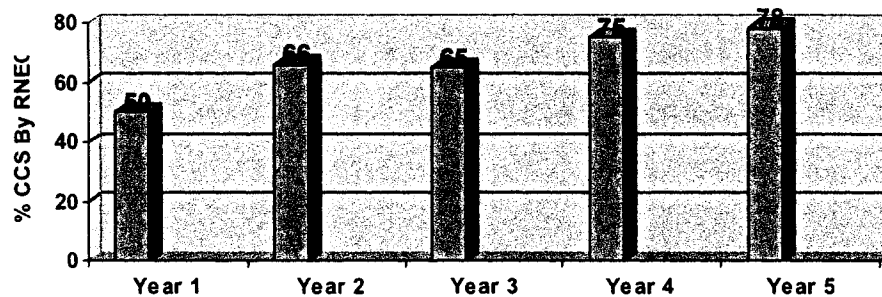


Figure 16. Percentage of recorded CCS by NP, AHAC data, November 1999 to November 2004.

Questionnaire data addressed the frequency of physician and NP visits over the past year. The researcher conducted an SPSS bivariate correlation analysis, using the Pearson model for coefficient correlation to determine if a significant relationship existed between the frequency of self-reported physician or NP visits over the past year and last self-reported Pap test within the past year. Analysis showed no significant relationship between the frequency of physician visits and reports of having Pap testing within the past year (Pearson correlation $[n = 108] = .171, p = .076$). Similarly, no significant relationship was seen between the number of NP visits over the past year and self-reported Pap test within the past year (Pearson correlation $[n = 108] = .153, p = .114$).

AHAC records were reviewed to determine the number of abnormal results reported for those women participating in CCS. Figure 17 shows percentages calculated from these data. For year 5, 10.5% of results were still pending at time of review; therefore, the 5.7% of CCS showing abnormal results represents only a potential minimum for this year.

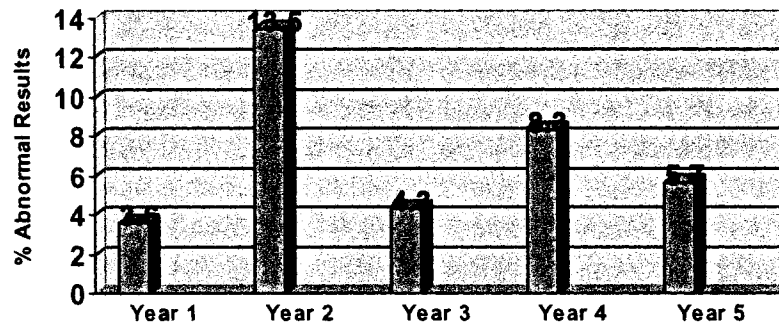


Figure 17. CCS abnormal findings, AHAC data, November 1999 to November 2004.

The researcher undertook a logistic regression analysis, replicating that performed by Dignan et al. (1996) by using the same dependent variables and covariates. Logistic regression tested three dependent variables: knowledge of cervical cancer and CCS, intention to get a Pap test within the next year, and self-reported Pap test within the past year. Important predictor covariates were tested to determine whether each had a unique contribution to dependent variable outcomes. The covariates included Aboriginal status, physical exam within the past year, education, history of abnormal Pap test, and age. The age covariate analysis differed from the format presented by Dignan et al. in that age was entered as a score value to give more statistical power to the analysis.

The dependent variables were recoded from the study data set into dichotomous measures. Knowledge data was extracted from responses to 5 questionnaire items that asked women to report on specific cervical cancer knowledge identifiers (Appendix H, Q16, 36, 37, 38, & 39). A value of 1 was assigned to the correct response; a value of 0 was assigned to all other responses. A total of 37 of the 109 respondents answered all knowledge questions correctly. The remaining two dependent variables were assessed following the process described by Dignan et al. (1996). The women were asked how

sure they were about having a Pap test done within the next year, and they were asked to recall when their last Pap test was done. Pap tests done within the past year and sure/very sure responses for Pap test intention were identified as the desired measurable outcomes and were assigned a value of 1. All other responses were assigned the lower code of 0. Table 10 shows the logistic regression results of the predictor covariates on the three dependent variables. The OR was 7.297, $p < .001$, with 95% CI = 2.622- 20.303 for women having reported a history of abnormal Pap test results on levels of cervical cancer knowledge. Women who reported a history of abnormal Pap test results were 2 to 20 times more likely to know more about cervical cancer than those women without a history of an abnormal Pap test. Women who were younger were also significantly more likely to report intention to attend Pap testing within the next year, OR = .923, $p = .011$, with 95% CI = .867 - .982. The data also showed that younger women were significantly more likely to report having had a Pap test within the past year, OR = .930, $p = .001$, with 95% CI = .891 - .972.

A history of abnormal results was a predictor of intention for Pap testing or Pap testing reported within the past year. Status residency among the participants (on-reserve vs. urban Aboriginal women) also was not a significant predictor of desired dependent variable outcomes. However, status on-reserve women had higher reports of intending to have a Pap test within the next year (89%) than status off-reserve women (72%).

The questionnaire knowledge item, "Cervical cancer is caused by a sexually transmitted virus" was excluded from the analysis because of the small number (9) of the 109 women agreeing with this causation statement.

Table 10

Logistic Regression Results of Predictor Covariates on Knowledge, Intention, and Screening

	Knowledge		Intention		Screening	
	OR*	95% CI*	OR*	95% CI*	OR*	95% CI*
Status	1.532	.558 - 4.208	2.866	.776 - 10.590	1.692	.686 - 4.174
Yearly Exam	1.752	.682 - 4.499	2.922	.787 - 10.772	1.655	.700 - 3.910
Education	1.312	.995 - 1.732	.829	.581 - 1.183	1.059	.825 - 1.361
Abnormal Pap	7.297** <i>p</i> < .001	2.633 - 20.303	.971	.249 - 3.782	1.304	.506 - 3.361
Age	1.012	.970 - 1.056	.923** <i>p</i> = .011	.867 - .982	.930** <i>p</i> = .001	.891 - .972

*OR = Odds Ratio, CI = Confidence Interval

** OR = Significance at *p* < .05

To examine risk factors known to contribute to the development of cervical cancer, the women responded to a series of questions investigating their pregnancy history, smoking status, and use of oral contraceptives. The results showed that 58% of the women reported their first pregnancy occurring by age 19, or younger, and 68% by age 20, with the range being age 13 to 38 years. When reported smoking histories were assessed, 93% of status on-reserve, 79% of status off-reserve, and 80% of Métis women surveyed reported having smoked at least 100 cigarettes in their lifetime, with 62% of the status on-reserve women self-identifying as current smokers.

Respondents ever having smoked reported that their regular use of nontraditional tobacco began by age 19 (93%). Sixty four percent of those who ever smoked reported regular smoking by age 16, and 19% reported regular smoking by age 12. Current smokers were asked, on average, how many cigarettes they would usually smoke per day. Results to this question were spread evenly in thirds, with 33% having reported smoking less than half a package per day, 33% smoking up to half a pack per day, and 33% smoking up to one package per day.

Logistic regression analysis was used to test for the effects of predictor covariates reported in the literature review and known to contribute to the development of cervical cancer on reports of abnormal Pap test results. The covariates included status residency (on reserve versus off reserve women), age at first pregnancy, having smoked at least 100 cigarettes in lifetime, daily smoking, and having had a history of oral contraceptive use. The dependent variable, a report of ever having had an abnormal Pap test, was assigned a value of 1, with all other responses given a lower value of 0. Métis women were excluded from the analysis because of their small sample size. The covariate of age at first pregnancy was entered as a score value. Affirmative responses to all other covariates were coded as 1.

Table 11 shows the results from this logistic regression analysis of risk factors known to contribute to the development of abnormal Pap tests. The only significant predictor was whether Aboriginal women live off reserve. Fifty percent of women living off reserve had reports of abnormal Pap tests, as compared to 21% of women living on reserve. An analysis of the data showed that Aboriginal women living off reserve are 6.6 times more likely to have reported abnormal Pap tests, as compared to women living on reserve (95% CI = 2 to 20 times).

Table 11

Results from Logistic Regression of Selected Covariates on Abnormal Pap Tests

	Abnormal Pap Test	
	OR	95% CI
Status (on reserve vs. off reserve)	.151*	.047 - .482
Age at First Pregnancy	1.002	.880 - 1.141
Ever Smoked at least 100 Cigarettes	7.073	.559 - 89.556
Current Smoker	1.168	.365 - 3.738
Ever Oral Contraceptive Use	1.077	.249 - 4.663

* OR significance at $p < .05$

AHAC data were also analyzed to determine the existence of any significant relationship between the covariates including frequency of NP visits over the past year, age and status (on-reserve vs. off-reserve residency) and the dependent variable of having had a Pap test within the past 2 years. Logistic regression analysis found no significant relationship between the frequency of NP visits over the past year and having had a Pap test within the past 2 years (OR = .270 with 95% CI = .056 - 1.298, $p = .102$).

Additionally, no significant relationship was found between status Aboriginal women's residency and having had a Pap test within the past 2 years. However, the variable age, entered as a score value, was significantly related to having had a Pap test within the past 2 years (OR = .701, $p < .001$ and 95% CI = .592 - .849). Younger women are significantly more likely to have had a Pap test with the past 2 years.

NP Experiences and Satisfaction

Overwhelmingly, there was consensus among those women surveyed who had reported having had seen a primary health care NP in the past that their experiences had been both positive and satisfying. The majority of women in this sample who had seen an NP agreed to statements that the NP spent time with them to answer their questions or address their concerns, the quality of care the NP provided was excellent, the NP was easy to talk to, and they had no concerns or problems with seeing the NP. The women were also satisfied with the care or advice they received from the NP, the amount of time the NP spent with them, and the way the professionals at the AHAC worked together to help with their health problems. Table 12 summarizes responses to questions regarding individual nurse practitioner experiences and satisfaction (see Appendix H for complete list of questions).

Table 12

NP Experiences and Satisfaction

Experience Statements	Overall Agreement
The NP gives support and information about how to look after my health condition or problem.	97%
The NP spends time with me to answer my questions ...	100%
The quality of care the NP provides is excellent.	100%
I am able to see the NP quickly when I have a health concern.	93%
The NP helps me find out where to get help from other agencies.	98%
The NP is easy to talk to.	100%
I am not clear about the NP's role.	43%
I am not clear about the NP's knowledge, education, or training.	53%
I am concerned that my doctor will not be aware of everything about my health and concerns if I see the NP.	51%
I have no concerns or problems with seeing the NP.	97%
Satisfaction Statements, How satisfied are you with:	Overall Satisfaction
The care or advice received from the NP.	99%
The amount of time the NP spends with you.	98%
The availability of the NP.	93%
The waiting time to get an appointment with the NP.	92%
How professionals at the AHAC work together to help with your health concerns.	98%
The way the NP speaks and listens to you.	100%

Clearly, the respondents have no concerns with NP services; however, the women still are not clear about the NP role and communication requirements with physicians.

Discussion

The study was undertaken to evaluate influencing factors related to CCS participation and knowledge among a sample of 109 Aboriginal women aged 19 to 69. The researcher also intended to measure the level of satisfaction and experiences with NPs among the surveyed women who had visited an NP in the past.

The questionnaire sought information on primary health care utilization, current preventative CCS practices, cultural and traditional practices, general health beliefs, future CCS intentions, cervical cancer knowledge, and level of satisfaction with NP health care services.

The study was limited by the sample sizes in the status off-reserve and Métis subgroups. Other study limitations included the lack of a randomized sample, the accuracy of self-reported data, and the absence of a non-Aboriginal comparison sample. The use of nonprobability sampling resulted in findings not being representative of the general Aboriginal female population. Researcher and participant bias may also have been introduced into the study because of the researcher's familiarity with some of the women interviewed, potentially having influenced participants' responses and overreporting of CCS practices.

Characteristics of the Interviewed Cohort

A lower percentage of women in the older age ranges was evident in both the questionnaire ($N_1 = 109$) and the AHAC data ($N_2 = 341$) samples. This may be related to the greater number of women over 45 years of age having had a history of total hysterectomy and subsequently being excluded from participating in the study. Specific to AHAC data, this finding may be related to the older cohort having relationships with different primary health care providers that were established prior the AHAC becoming operational.

Socioeconomic determinants among the study group were consistent with the Health Canada (1999b) report in identifying high rates of poverty, unemployment, and lower education achievement. This finding was the most noticeable among women living on reserve. High smoking rates and self-reports of having ever smoked were identified among the participants. The 62% smoking rate identified among the participants matches the 62% reported by Health Canada. This finding also does not differ greatly from that

recorded by Bruyere in 1996. Educational attainment, income level, and smoking status are factors associated with the development of cervical cancer in women.

The local NWHU, through their CCS campaign, promotes CCS through many multimedia sources. The findings clearly showed that the most common source for health information among those Aboriginal women surveyed is the First Nations community health nurse or a health representative (39%). Combining this with the percentage of women who reported the NWHU as a resource, the results indicated that 51% of Aboriginal women prefer one-to-one contact with a health professional for health information. Additional results showed that 82% of the participants reported they would first go to a medical professional for advice, followed by a family member, friends, and the Internet. Each source accounted for 6%.

The data revealed that radio, television, and newspaper media sources together account for only 15% of reported health information sources, suggesting that these media sources may not be as effective a strategy in increasing awareness of cervical cancer and CCS among Aboriginal women living on reserve as is direct contact through the community health nurse. However, the researcher's analysis of the data found no significant relationship between correct knowledge scores on specific cervical cancer questions and access of health information through the media outlets or community health nurses. Similarly, no significant relationship was found among women who reported access a community health nurse for health information and self-reports of Pap testing done within the past year.

Primary Health Care Utilization and Gender Preferences

Of the women who reported having had an annual physical examination (58%), 71% of them reported that their family physician had performed the examination. This result complemented the findings that regular primary health care services for 72% of those surveyed is provided through a private physician clinic. One respondent volunteered the interesting comment that “when I go to the AHAC to see the doctor, I have more time with him, and I don’t feel rushed.” This observation is consistent with what one would expect in a globally funded community health centre primary health care structure where physicians do not practice according to a fee-for-service payment reimbursement.

The responses to practitioner gender questions showed that to 61% of the surveyed women, gender does make a difference when it comes to having a Pap test; 95% of these women indicated a preference to have a female practitioner collect the Pap test. This finding is similar to that reported by Steven et al. (2004), who identified women’s preference for a female practitioner to perform CCS. However, statistical analysis between reports of practitioner gender making a difference in having Pap testing and having Pap testing within the past year showed no significant relationship. Additional analysis found no significant difference between having Pap testing done within the past year and whether or not a male or female practitioner had performed the test.

Cultural Practices: Questionnaire Data

As predicted, status on-reserve women had higher reports on all the cultural covariates measured; however, this difference is only significant in reports of ever having used traditional remedies for health problems. Even though these cultural measures

showed no significant relationship to CCS, one cannot exclude the influence of culture and traditional beliefs and their relationship to health status outcomes.

Cervical Cancer: Screening, Knowledge, and Intention

The results showed that among the Aboriginal women surveyed, 76% of status off-reserve women, 74% of status on-reserve women, and 70% of Métis women reported having Pap testing done within the past 2 years. The data showed that the participants currently meet the Ontario program objective to increase those ever screened to 95% by 2010, as evident by 99% having reported Pap testing done in the past.

Key points arising from the questionnaire data indicated that differences in knowledge, intentions, and CCS participation exist among this sample of Aboriginal women. Logistic regression analysis of risk factors known to contribute to the development of abnormal Pap tests found that the only significant predictor was whether Aboriginal women lived off reserve. The data showed a significant relationship between status Aboriginal women living off reserve and reports of abnormal Pap test results, with 50% of the 29 off-reserve women having reported a history of abnormal Pap test results. An analysis of the data showed that Aboriginal women living off reserve are 2 to 20 times more likely to have reported abnormal Pap tests, as compared to women living on reserve. The researcher found no explanation for this result, suggesting the need for more research on cervical health among off-reserve Aboriginal women.

Logistic regression analysis found that the women who reported a history of abnormal Pap test results have a sevenfold increase in knowledge of cervical cancer, as compared to those women not reporting a history of abnormal Pap test results. The women who reported a history of abnormal Pap test results are 2 to 20 times more likely

to know more about cervical cancer than those women without a history of an abnormal Pap test. High smoking rates among study participants influenced logistic regression analysis on the effect of smoking and abnormal Pap test results because 88% of participants reported a history of ever having smoked nontraditional tobacco.

Remoteness of residency, that is, on versus off reserve, was not a significant factor between Aboriginal women when prevalence of Pap testing within the past year was evaluated. However, the researcher acknowledges that all of the women participating in the study could be considered to reside in a remote location because of the geographical area in which the study was conducted.

No significant difference was noted between the covariates of having had an annual physical exam and educational attainment on the women's level of cervical cancer knowledge, intention to participate in Pap testing within the next year, and reports of having had a Pap test done within the past year. Consistent with what was expected, a younger age was significantly related to intentions of having a Pap test within the next year, self-reports of having had a Pap test within the past year, and clinical record audit data that identified younger women as significantly more likely to have had a Pap test within the past 2 years. The women who were younger were also significantly more likely to self-report intention to attend Pap testing within the next year. The data also showed that younger women are significantly more likely to self-report having had a Pap test within the past year.

Selected reasons reported by the participants for not having had recent Pap testing were consistent with what had been reported in previous research by the ACCU (2002) and Steven et al. (2004):

- “I am waiting for my practitioner to tell me that I need one, I feel uncomfortable asking for a Pap test.”
- “It is annoying and uncomfortable.”
- “I don’t like going to the doctor.”
- “I don’t like taking my clothes off at the doctor’s office.”

NP Experiences and Satisfaction

Aboriginal women living on reserve have timely access to culturally sensitive and competent CCS services provided by the AHAC NPs. NP experiences and satisfaction data provided evidence consistent with what has been reported in the national and international literature. Among the women who have seen an NP, there is a positive consensus on all satisfaction measures and the demonstration of positive interactive NP experiences. Among the surveyed women, there were reports requesting more NP availability on reserve for primary health care services.

Descriptive analysis found that women accessing nursing practitioner services have no concerns with nurse practitioner services. This finding is consistent with literature reported by the MOHLTC (2003) regarding the integration of the primary health care nurse practitioner specifically that the public reports high levels of satisfaction with nurse practitioners. However, women still are still not clear about their role and communication requirements with physicians.

AHAC data results found that the frequency of NP visits over the past year was not significantly related to the documentation of Pap testing within the past 2 years. Women who reported attending annual health examination and those women who have a greater frequency in NP or physician visits are no more likely to have been screened

recently. This finding is inconsistent with that reported by Finkelstein (2002), who found higher rates of CCS among women who attend a periodic health examination. However, the data are consistent with those reported by Bruyere (1996), who previously surveyed status on-reserve Aboriginal women in the same geographical area as the current study and found that even though 74% of those surveyed reported having seen a physician in the past year, 36% reported their last Pap test as greater than 2 years ago.

An examination of AHAC NP client records showed that over the past 2 years, 75% of recorded CCS had been conducted by an NP. Over this same time, only one specimen was returned as unsatisfactory. This is consistent with what Lundgren et al. (2000) reported, namely, that nurses demonstrate clinical efficiency in the collection of cervical smears. The increase noted among AHAC clinical records documenting Pap tests performed by NPs over their 5-year operational period may be because of decentralized on-reserve clinical services delivered by NPs and increased accessibility among Aboriginal women to a female practitioner to perform Pap testing.

Current knowledge surrounding cervical cancer and CCS includes the following main themes:

- National, international, and provincial reports identify indigenous populations at highest risk for the development of cervical cancer.
- Mortality from cervical cancer in general is considered avoidable and preventable through routine CCS.
- In Ontario, Aboriginal women are much more likely to develop cervical cancer than their Ontario counterparts.

- Researchers report a higher prevalence of risk factors leading to the development of cervical cancer among Aboriginal women.
- HPV, a common sexually transmitted infection, has a causal relationship with the development of cervical cancer.
- National incidence rates for cervical cancer have steadily declined over the years with the introduction of CCS programs for the early detection of cervical cancer.
- Cervical cancer rates among Aboriginal women are excessive, even in the presence of excellent CCS programs.

Reforming current program strategies to reach high-risk Aboriginal women is required and urged if successes are to be noted in meeting the Ontario provincial program objectives for the early detection of cervical cancer in this group of women. Ontario program objectives also include the reduction in cervical cancer mortality by 50% by 2005, an increase in those being screened according to recommended guidelines to 85%, and to increase to 95% by year 2010 the number of women ever screened (NHIP, 2000).

The utilization of nurses to conduct CCS is an appropriate and effective alternative to the currently traditional method of having only physicians conduct CCS.

The researcher believes that the objectives of the study have each been addressed and their results presented and discussed. In summary:

- AHAC NP CCS among their clients has increased by 25% since inception of the AHAC.
- Aboriginal women accessing NP primary health care are satisfied with their encounters.

- No significant relationship was found between the covariates of smoking, age at first pregnancy, and age on reports of abnormal Pap test results.
- Status Aboriginal women living off reserve are significantly more likely to report a history of abnormal Pap results than status Aboriginal women living on reserve.
- Women who report a past history of an abnormal Pap test are significantly more likely to have greater knowledge of cervical cancer and CCS than women who have not.
- The AHAC NPs assess many women who report their primary physician as other than that contracted at the AHAC.

The presented study addressed many of the themes reported in the literature. Specific to HPV, only 9% of those women surveyed agreed with its relationship to the development of cervical cancer.

To increase the accessibility to primary health care services among the Aboriginal population, an AHAC located within the Rainy River District of Northwestern Ontario was funded by the Ontario MOHLTC (2003) and became operational in 1999. The AHAC introduced the new primary health care health center model for service delivery, utilizing an interdisciplinary health care team and offering decentralized on reserve primary health care services. On-reserve clinics utilizing NPs were reported by the AHAC as an effective channel in reaching high-risk Aboriginal women and increasing accessibility to CCS for all those eligible. The AHAC initiatives are based on cultural beliefs, attitudes, and knowledge, and they promote participation in annual health CCS.

Results from the study showed an average annual increase of 17% in NP female clients aged 19 to 69 over the past 5 years since the AHAC has been operational. The

majority of these clients reside on reserve. The AHAC executive documented that to date, no dedicated, full-time physician is employed by the agency. This was evident in the number of NP audited client records indicating that the majority of clients seek physician services outside the AHAC. Data specific to status on-reserve participants found that since last surveyed in 1996, the current study results showed an approximate 50% reduction in those reporting having last Pap testing greater than 2 years ago, down from 36% noted by Bruyere (1996) to 19% noted in the current study. This reduction may be related to the availability of AHAC NP primary health care services on reserve that reduce barriers to participation in CCS.

The findings support the use of the nursing profession as an economic and effective resource for CCS services. AHAC data that provided evidence of NP clinical competency in obtaining Pap tests and client reports of satisfaction and positive NP experiences further promote the integration of the nursing profession into CCS programs. In the professional environment of an interdisciplinary health care centre, the researcher concluded that it is not unreasonable to extend the utilization of the nursing profession and employ registered nurses and their scope of practice in CCS among healthy women.

Recommendations

- To continue efforts by the AHAC to facilitate the use of alternate female providers in nontraditional approaches to provide culturally appropriate CCS services based on traditional and contemporary health perspectives.
- To coordinate and build upon the collaborative relationship with FNIHB and First Nations community health nurses to increase knowledge and awareness of cervical cancer and CCS and promote participation.

- To utilize the community health nurse as a recognized resource for education pertaining to the primary prevention of HPV infection, assisting individuals to identify their individual beliefs, attitudes, and health risk factors.
- To encourage health professionals to view cervical cancer using the infectious diseases model in conjunction with determinants of health and view cervical cancer as the outcome of exposure to a highly contagious sexually transmitted virus.
- To improve upon and find new ways in which to integrate the acceptance of CCS into women's personal health plans. For women who refuse to participate in CCS, to provide the opportunity for the performance of self-administered HPV screening.
- To support the introduction of a HPV vaccine and clinical trial research, advocating for the national introduction of a vaccine program with no provincial delay once the vaccine is available.
- To conduct further research among status off-reserve Aboriginal women to determine why they have greater reports of abnormal Pap test results.

Conclusion

The researcher examined various determinants related to the development of cervical cancer through the use of self-reports among Aboriginal women and provided an understanding of Aboriginal women's knowledge and CCS participation. Statistical analysis found that although many of the studied indicators influence cervical health, their relationship among the women surveyed was not significant. Analysis contributed to the body of knowledge, identifying that younger women are significantly more likely to report intention and participation in annual Pap testing. The researcher identified the need to conduct further studies among off-reserve Aboriginal women to gain further insight

why this cohort is significantly more likely to report a history of abnormal Pap test results than on-reserve Aboriginal women.

Many suggestions presented in this report are consistent with primary health care reform initiatives that promote the right care at the right place by the right professional. Ministers of health and the Health Council of Canada support this transition toward primary health care reform and are committed to closing the health status gap noted among the Canadian Aboriginal population.

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APPENDIX A

Researcher's Agreement Form

Research Title:

“A critical evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre” by Carienne Bowes-Kerber, Graduate Student, Masters of Public Health, Lakehead University.

Cervical cancer morbidity and mortality may be decreased or prevented in women through early detection via regular cervical screening. In Northwestern Ontario cervical cancer occurs 73% more often in First Nation women than their Ontario counterparts (Northern Health Information Partnership, 2000). Aboriginal women diagnosed with cervical cancer have been noted to have no previous history of cervical cancer screening or have a history of being under screened (Lee, Parsons, & Gentleman, 1998).

The overall purpose of this study is to critically examine prevalence and frequency trends in the utilization of cervical cancer screening performed by female nurse practitioners employed within an Aboriginal Health Access Centre in a cohort of Aboriginal women ages 18 through 69 years residing in the Rainy River District of Northwestern Ontario accessing primary health care through the Aboriginal Health Access Centre. This study will also assist in identifying Aboriginal women's; barriers influencing cervical screening behaviour, level of knowledge regarding cervical cancer screening and level of satisfaction with nurse practitioners performing health screening.

The findings of the study may be used to reflect upon alternative strategies having the potential to influence prevalence and frequency rates of cervical cancer screening among this cohort of Aboriginal women.

A cohort design is proposed that includes Aboriginal women aged 18 to 69 years who reside within the Rainy River District. Sample groups will be obtained to represent on-reserve, off-reserve, and Metis Aboriginal women who will then be sub-classified according to age groups. Phase 1 of the study design will consist of an anonymous interview-based questionnaire research instrument administered by the researcher/research assistant. Phase 2 of the study design will consist of a retrospective, descriptive analysis of nurse practitioner obtained, cervical cancer screening trends over the 5-year period since the Aboriginal Health Access Centre has been operational.

A cover letter will be provided to all area First Nation Community Health Representatives to be included in community health newsletters. This will advise on-reserve Aboriginal women of the study and act as a recruitment tool for study participants. Area First Nation organizations will also be contacted and advised of the study and the need for voluntary participants. No participant names will be collected and all data provided will remain confidential.

C. Bowes-Kerber/May 2004

APPENDIX B

Researcher's Cover Letter

Dear Participant,

We are requesting your participation in a study titled, "**A Critical Evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre**". As part of this study, Carienne Bowes-Kerber, a Lakehead University graduate student, will be looking at Aboriginal women's level cervical cancer screening knowledge and level of satisfaction with comprehensive cervical cancer screening services performed by nurse practitioners at the Aboriginal Health Access Centre.

The overall purpose of the study is to critically examine trends in the utilization of Pap tests performed by female nurse practitioners employed at the Access Centre, factors influencing Aboriginal women's cervical cancer screening participation and women's level of satisfaction with the well women's health care program.

Additional objectives of the study are to:

- 1: Identify Aboriginal women's knowledge regarding in cervical cancer and screening.
- 2: Identify barriers to Aboriginal women's participation in cervical screening.
- 3: Explore alternatives in the promotion and delivery of well women's health care in an effort to meet the identified health needs of Aboriginal women concerning cervical screening.

APPENDIX C

Researcher's Consent Form

I voluntarily consent to participate in a study to be conducted by Carienne Bowes-Kerber and other researchers titled, **“A critical evaluation of nurse practitioners performing cervical cancer screening on participation rates and level of knowledge among Aboriginal women”**.

The study will examine trends in the utilization of cervical cancer screening performed by female nurse practitioners employed within an Aboriginal Health Access Centre. The study will also explore Aboriginal women's level of knowledge regarding cervical cancer and level of satisfaction with nurse practitioners performing well women's screening.

We expect the results of this study to assist in the promotion and delivery of cervical screening services to Aboriginal women.

I understand the following:

I am under no obligation to participate in the interview-based questionnaire and may withdraw at any time without penalty.

Participation in this study has no apparent risk of physical or psychological harm

I will participate by completing the interview-based study questionnaire. All answers will be accepted

APPENDIX D

2001 Community Profile Population Statistics, Rainy River District (Census Division),

Ontario

Statistics Canada (2001) Census, Retrieved January 13, 2004, from

<http://www12.statcan.ca/english/profil01/Details/details1pop2.cfm?SEARCH=BEGINS&PSGC=35&SGC=3559&A=&LANG=E&Province=35&PlaceName=Rainy%20River%20District&CSDNAME=Rainy%20River%20District&CMA=&SEARCH=BEGINS&Data Type=1&TypeNameE=Census%20Division&ID=193>

Characteristics	Rainy River District		
	Total	Male	Female
Immigration Characteristics			
Total - All persons	21,875	10,900	10,975
Canadian-born population ⁽²³⁾	20,240	10,140	10,100
Foreign-born population ⁽²⁴⁾	1,615	755	860
Immigrated before 1991	1,480	675	805
Immigrated between 1991 and 2001 ⁽²⁵⁾	135	80	55
Non-permanent residents ⁽²⁶⁾	10	10	10
Aboriginal Population			
Total - All persons	21,875	10,900	10,975
Aboriginal identity population ⁽²⁷⁾	3,635	1,775	1,855
Non-Aboriginal population	18,245	9,125	9,120

APPENDIX E

Gizhewaadiziwin Health Access Centre Board of Directors Cover Letter

Dear Gizhewaadiziwin Health Access Centre Board of Directors,

We are requesting your participation in a study titled, “**A Critical Evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre**”. As part of this study, Carienne Bowes-Kerber, a Lakehead University graduate student, will be looking at Aboriginal women’s level of satisfaction with comprehensive cervical cancer screening services performed by nurse practitioners at the Aboriginal Health Access Centre.

The overall purpose of the study is to critically examine trends in the utilization of Pap tests performed by female nurse practitioners employed at the Access Centre over the past 5 year period and factors influencing Aboriginal women’s participation in and level of satisfaction with the well women’s health care program.

Additional objectives of the study are to:

- 1: Identify Aboriginal women’s knowledge regarding cervical cancer and screening.
- 2: Identify barriers to Aboriginal women’s participation in cervical screening.
- 3: Explore alternatives in the promotion and delivery of well women’s health care in an effort to meet the identified health needs of Aboriginal women.

To accomplish these objectives, it is requested that Gizhewaadiziwin Health Access Centre participate in an audit of their well women's program. Each eligible female record audit may take approximately 10 minutes to complete. A copy of the audit template will be made available to you prior to the audit process and every effort to address any expressed concerns and questions will be made.

Aboriginal women's level of satisfaction with your comprehensive cervical cancer program performed by the female nurse practitioners, will be explored through the use of a survey questionnaire administered by the researcher/research assistants to on-reserve, off-reserve and Metis Aboriginal women.

All data provided will be accepted and remain confidential and anonymous. All data will be stored at Lakehead University for a period of 7 years.

This research activity is based on open and honest communication and participation on the behalf of both the researcher and the Gizhewaadiziwin Health Access Centre. Upon completion of the study, the researcher will meet with the Board and staff of the Gizhewaadiziwin Health Access Centre to present and discuss the findings.

Sincerely, Carienne Bowes-Kerber

APPENDIX F

Gizhewaadiziwin Health Access Centre Board of Directors Consent Form

Gizhewaadiziwin Health Access Centre Board of Directors

We voluntarily consent to participate in a study to be conducted by Carienne Bowes-Kerber and other researchers titled, **“A critical evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre”**.

The study will examine trends in the utilization of cervical cancer screening performed by female nurse practitioners employed within an Aboriginal Health Access Centre and explore Aboriginal women’s level of satisfaction with the well women’s screening program.

We expect the results of this study to assist in the promotion and delivery of cervical screening services to Aboriginal women.

We understand the following:

1: We are under no obligation to participate in the record audit process of our eligible female clients or make client questionnaires available at our facility. We may withdraw our consent at any wi

2: Participation in this study has no apparent risk of physical or psychological harm.

Researcher's Consent Form

Gizhewaadiziwin Health Access Centre Board of Directors

We voluntarily consent to participate in a study to be conducted by Carienne Bowes-Kerber and other researchers titled,

“A critical evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre”.

Moved By: _____

Seconded By: _____

Motion Carried Unanimously:

Date: _____

APPENDIX G

Participant Questionnaire Development References

Dignan, M., Michielutte, R., Blenson, K., Wells, B., Case, L., Sharp, P., et al. (1996).

Effectiveness of health education to increase screening for cervical cancer among Eastern-Band Cherokee Indian women in North Carolina. *Journal of the National*

Michel, I., Ehrlich, A., Wright, B., Szadkowski, M., & McFarland, V. (2003). *Nurse practitioner cervical screening pilot project: Evaluation report*. Sudbury, ON: Sudbury and District Health Unit.

Steven, D., Fitch, M., Dhaliwal, H., Kirk-Gardner, R., Sevean, P., Jamieson, J., et al.

(2004). Knowledge, attitudes, beliefs, and practices regarding breast and cervical cancer screening in selected ethnocultural groups in Northwestern Ontario.

Oncology Nursing Forum, 31(2), 305-311.

APPENDIX H

Community Health Interview

Interviewer: _____

Date: _____, 2004

Participant: Status On _____

Status Off _____

Metis _____

This questionnaire has several sections. Although it may seem like there are a lot of questions, you will find that they go very quickly. Please feel free to ask questions to be certain that you understand the question being asked.

For the first section we would like to ask some questions about your health status, taken as a whole, and your experience with medical care.

1. Overall, would you say that your health is: (read choices)
(1)___ Excellent, (2)___ Good, (3)___ Fair, (4)___ Poor
2. Where do you go for regular complete physical exams?
(NOTE: Exams are to include Pelvic and Pap Tests)
(1)___ Doctor's office
(2)___ Health Access Centre
(3)___ Emergency Room
(4)___ Other _____
(5)___ Don't have a regular source for complete physicals

3. When was the last time you went to the doctor? (Open Ended)
- (1)___ Days ago
 - (2)___ Weeks ago
 - (3)___ Months ago
 - (4)___ Years ago
 - (5)___ Other _____
4. When was the last time you went to the nurse practitioner? (Open Ended)
- (1)___ Days ago
 - (2)___ Weeks ago
 - (3)___ Months ago
 - (4)___ Years ago
 - (5)___ Other _____
5. Do you usually go to a doctor for a yearly physical exam?
- (1)___ Yes
 - (2)___ No
 - (3)___ DK
 - (4)___ RE
6. Do you usually go to a nurse practitioner for a yearly physical exam?
- (1)___ Yes
 - (2)___ No
 - (3)___ DK
 - (4)___ RE
7. Do you have any medical problems for which you regularly see a doctor?

(1)___ Yes, (describe) _____

(2)___ No

(3)___ DK

(4)___ RE

8. How many times have you been to see a doctor during the past year? (Open

Ended: Code response into a category)

(1)___ None

(2)___ Once

(3)___ 1-3 times

(4)___ 4-5 times

(5)___ more than 5 times (Comments: _____)

9. How many times have you been to see a nurse practitioner during the past year?

(Open Ended: Code response into a category)

(1)___ None

(2)___ Once

(3)___ 1-3 times

(4)___ 4-5 times

(5)___ more than 5 times (Comments: _____)

For the next section, we would like you to focus your attention more toward your thoughts, feelings, and experiences regarding cancer.

10. Where do you get information about health? (Check all that apply)

(1)___ Television/radio

- (2)___ Magazines
- (3)___ Pamphlets
- (4)___ Community Health Nurse
- (5)___ Health Unit
- (6)___ Newspaper
- (7)___ Other _____
- (8)___ DK
- (9)___ RE

11. In the past year, have you heard, seen, or read anything about cervical cancer?

- (1)___ Yes (describe) _____
- (2)___ No (**GO TO 12**)
- (3)___ DK
- (4)___ RE

11.a. Did you take any action based on the information that you learned about cervical cancer?

- (1)___ Yes (describe) _____
- (2)___ No
- (3)___ DK
- (4)___ RE

12. In the past year, have you heard, seen, or read anything about other types of cancer?

- (1)___ Yes (type of cancer) _____
- (2)___ No (**GO TO 13**)

(3)___ DK

(4)___ RE

a. Did you take any action based on the information that you learned?

(1)___ Yes _____

(2)___ No

(3)___ DK

(4)___ RE

13. Has a doctor or other health professional ever told you that you had cancer?

(1)___ Yes

(2)___ No (**GO TO 14**)

(3)___ DK

(4)___ RE

13a. What kind(s) of cancer?

14. Other than a doctor, whom would you go to if you thought you might have cancer?

(Open Ended)

15. Have any of your family members or immediate blood relatives ever had cervical cancer?

Mother YES () NO ()

Sister YES () NO ()

16. Have you ever heard of a test that can be done to check for cancer of the cervix in its early stages?

(1)___ Yes (**GO TO 17**)

(2)___ No (**SKIP 17 AND READ PASSAGE, THEN GO TO 18**)

(3)___ DK

(4)___ RE

17. Do you remember what the test was called?

(1)___ Correct (**READ PASSAGE AND GO TO 18**)

(2)___ Incorrect (**RECORD ANSWER**) _____

(3)___ DK

(4)___ RE

FOR ALL SUBJECTS READ: As part of some pelvic exams, a Pap test is done to check for cancer of the cervix. A small sample of cells is taken from a woman's cervix (the opening to her womb) and is sent to a laboratory where it is tested for signs of cancer.

18. Have you ever had a Pap test?

(1)___ Yes

(2)___ No (**GO TO 21 and collect reason why**)

(3)___ DK

(4)___ RE

19. Do you remember when you had your last pelvic examination?

(OPEN ENDED) Probe: "When was that?"

20. Do you remember if you had a Pap test the last time you had a pelvic examination?

(1)___ Yes (**Go TO 23**)

(2)___ No

(3)___ DK

(4)___ RE

21. What are some of the reasons you have not had a Pap test?

(Open Ended)

GO TO 34 IF RESPONDENT HAS NOT HAD A PAP TEST

22. When did you have your last Pap test? Would you say it was:

(read categories):

(1)___ Within past year (0 to 12 months ago)

(2)___ Within past 2 years

(3)___ Within past 5 years

(4)___ More than 5 years ago

(5)___ DK

(6)___ RE

23. Where did you get your last Pap test?

24. Can you remember who did your last Pap test?

MD / NP (circle one)

25. Was the doctor/nurse a male or a female?

(1)___ Male

(2)___ Female

26. Did you find out the results of that Pap test?

(1)___ Yes

(2)___ No (**GO TO 30**)

(3)___ DK

(4)___ RE

27. What were the results? (Open Ended)

28. How did you find out about the results?

PROBE: "How did they tell you?"

(1)___ Through the mail (e.g. postcard)

(2)___ They called me

(3)___ I called them

(4)___ Through a follow-up visit

(5)___ Other (Specify) _____

29. Did you have any questions about your test results that the doctor or nurse did not answer or explain clearly?

(1)___ Yes

(2)___ No

(3)___ DK

(4)___ RE

30. Have you ever had a Pap test where the results were **NOT** normal?

(1)___ Yes

(2)___ No (**GO TO 34**)

(3)___ DK

(4)___ RE

31. Because the result was **NOT** normal, did you have any additional tests or treatments?

(1)___ Yes

(2)___ No (**GO TO 33**)

(3)___ DK

(4)___ RE

32. Did you have the additional tests or treatments within 6 months?

(1)___ Yes (**GO TO 34**)

(2)___ No

(3)___ DK

(4)___ RE

33. Do you remember why you didn't get the additional tests or treatment? (Open Ended)

(Probe: "Anything else?")

34. Does it make any difference to you to have a male or female health provider do a Pap test?

(1)___ Yes (**GO TO 34a**)

(2)___ No (**READ PASSAGE AND GO TO 35**)

a. If yes, which would you prefer, a male or a female?

(1)___ Male

(2)___ Female

(3)___ No Difference

(4)___ DK

(5)___ RE

Now let me read some statements about cervical cancer and the Pap test. Tell me whether you agree or disagree with each statement.

35. Cervical cancer is caused by a sexually transmitted virus.

(1)___ Agree

(2)___ Disagree

(3)___ DK

(4)___ RE

36. Cervical cancer can be found early with a Pap test
- (1)___ Agree
 - (2)___ Disagree
 - (3)___ DK
 - (4)___ RE
37. If cervical cancer is found early, it can be cured.
- (1)___ Agree
 - (2)___ Disagree
 - (3)___ DK
 - (4)___ RE
38. When I need a Pap test, I can get one.
- (1)___ Agree
 - (2)___ Disagree
 - (3)___ DK
 - (4)___ RE
39. If I needed treatment for cervical cancer, I could get it.
- (1)___ Agree
 - (2)___ Disagree
 - (3)___ DK
 - (4)___ RE
40. I believe that getting to a health practitioner early is very important to surviving cancer.
- (1)___ Agree

(2)___ Disagree

(3)___ DK

(4)___ RE

For the next four questions, answer by saying “very sure, sure, unsure, or very unsure.” (CARD #1)

41. How sure are you that you will get a Pap test within the next year?

___ Very Sure ___ Sure ___ Unsure ___ Very Unsure

(1) (2) (3) (4)

42. How sure are you that you will go to a nurse practitioner for a physical exam next year?

___ Very Sure ___ Sure ___ Unsure ___ Very Unsure

(1) (2) (3) (4)

43. How sure are you that you will lose weight during the next year?

___ Very Sure ___ Sure ___ Unsure ___ Very Unsure

(1) (2) (3) (4)

44. How sure are you that you will increase your exercise during the next year?

___ Very Sure ___ Sure ___ Unsure ___ Very Unsure

(1) (2) (3) (4)

Now I would like to ask you some questions about health care.

45. Where do you go when you need advice about your health? (Open Ended)

Probe: “Anywhere else?”

46. Where do you go for health care when you are sick? (Open Ended)

Probe: "Anywhere else?"

47. Do you ever use traditional **Aboriginal** remedies for health problems? (remedies are used to treat specific diseases or conditions)

(1)___ Yes

Remedy _____ used for _____

Remedy _____ used for _____

Remedy _____ used for _____

(2)___ No (**GO TO 49**)

(3)___ DK

(4)___ RE

48. How often do you use traditional **Aboriginal** remedies?

___ Frequently, ___ Occasionally, ___ Seldom, ___ Never

(1)

(2)

(3)

(4)

49. Have you ever asked for help from an Indian healer or medicine man?

(1)___ Yes

(2)___ No (**GO TO 51**)

(3)___ DK

(4)___ RE

50. What kinds of problems have you sought help for? (Open Ended)

51. Are there certain **Aboriginal** customs or practices that you follow to stay healthy?

(ways of living that Indians in your tribe believe contribute to better health)

(1)___ Yes (Specify) _____

(2)___ No

(3)___ DK

(4)___ RE

52. How often do you attend **Aboriginal** gatherings? (**READ CATEGORIES**)

(1)___ Never

(2)___ Rarely

(3)___ Sometimes

(4)___ Often

(5)___ DK

(6)___ RE

53. Have you ever used tobacco for traditional Indian ceremonies?

(1)___ Yes

(2)___ No (**GO TO 54**)

(3)___ DK

(4)___ RE

- 53a. If yes, how often?
- (1)___ Weekly
 - (2)___ Monthly
 - (3)___ Yearly
 - (4)___ Less than once/year
54. Have you smoked at least 100 cigarettes (4-5 packs) in your entire life?
- (1)___ Yes
 - (2)___ No (**GO TO 57**)
 - (3)___ DK
 - (4)___ RE
55. Do you smoke cigarettes now?
- (1)___ Yes
 - (2)___ No (**GO TO 57**)
 - (3)___ DK
 - (4)___ RE
56. On the average, how many cigarettes do you usually smoke a day?
- (1)___ Less than one
 - (2)_____ per day (Specify # of packs or # of cigarettes)
 - (3)___ DK
 - (4)___ RE
57. Have you ever used chewing tobacco or snuff?
- (1)___ Yes
 - (2)___ No (**GO TO 60**)

(3)___ DK

(4)___ RE

58. Do you use chewing tobacco or snuff now?

(1)___ Yes

(2)___ No

(3)___ DK

(4)___ RE

59. How old were you when you began using chewing tobacco regularly?

_____ Years of age

The next section of the questionnaire asks general questions about you and your tribe.

60. What is your age?

Age in years _____

61. What was your age at your first pregnancy?

Age in years _____

62. How many pregnancies have you had?

Number _____

63. Have you ever used oral contraceptives for birth control?

___ Yes

___ No

___ DK

___ RE

64. What is your current marital status: **(Read Categories)**

- (1)___ Married
- (2)___ Living in a marriage-like relationship
- (3)___ Separated
- (4)___ Divorced
- (5)___ Widowed
- (6)___ Never Married
- (7)___ DK
- (8)___ RE

65a. How many close friends do you have? (People that you feel at ease with, can talk to about private matters, and can call on for help?)

- none 1 or 2 3 to 5 6 to 9 10 or more

65b. How many relatives do you have that you feel close to?

- none 1 or 2 3 to 5 6 to 9 10 or more

65c. How many of these friends or relatives do you see at least once a month?

- none 1 or 2 3 to 5 6 to 9 10 or more

65d. Do you belong to any of these kinds of groups?

- a. Social or recreational group yes no
- b. Labor union, commercial group, or professional organization yes no
- c. Church group ye s no
- d. Group concerned with children (PTA, girl/boy scouts, etc.) yes no
- e. Group concerned with community betterment (improvement) yes no
- f. Any other group yes no

(describe: _____)

66. What was the highest grade or year of school that you completed?
- (1)___ Eighth grade or less
 - (2)___ Some high school
 - (3)___ High school graduate (or GED certificate)
 - (4)___ Some technical school
 - (5)___ Technical school graduate
 - (6)___ Some 4-year college
 - (7)___ 4 -year college graduate
 - (8)___ Post graduate or professional degree
 - (9)___ DK
 - (10)___ RE
67. What is your occupation?
- (1) Full-Time Employment _____
 - (2) Part-Time Employment _____
 - (3) Homemaker _____
 - (4) Not Employed _____
68. Are you the head of this household?
- (1)___ Yes
 - (2)___ No
 - (3)___ DK
 - (4)___ RE
69. Now for the final question on this section, I am going to read some categories of income. Please tell me which category shows how much your total household income

was for the past 12 months. By household, I mean all of the people who live here and share income and expenses. (CARD #2)

- (1)___ Under 5,000
- (2)___ 5,000-7,999
- (3)___ 8,000-10,999
- (4)___ 11,000-13,999
- (5)___ 14,000-19,999
- (6)___ 20,000-29,999
- (7)___ 30,000-39,999
- (8)___ 40,000 and over
- (9)___ DK
- (10)___ RE

For the next section of the questionnaire, please say whether you strongly agree moderately agree, agree, or disagree with each statement. (CARD #3)

	Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
If I get sick, it is my own behaviour which determines how soon I get well again.	1	2	3	4	5	6
No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6
Whenever I don't feel well,						

I should consult a medically trained professional.	1	2	3	4	5	6
I am in control of my health.	1	2	3	4	5	6
My family has a lot to do with my becoming sick or staying healthy.	1	2	3	4	5	6
When I get sick, I am to blame.	1	2	3	4	5	6
Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
Health professionals control my health.	1	2	3	4	5	6
My good health is largely a matter of good fortune.	1	2	3	4	5	6
The main thing which affects my health is what I myself do.	1	2	3	4	5	6
If I take care of myself, I can avoid illness.	1	2	3	4	5	6
When I recover from an illness, it's usually because other people have been taking good care of me.	1	2	3	4	5	6
No matter what I do, I'm likely to get sick.	1	2	3	4	5	6
If it's meant to be, I will stay healthy.	1	2	3	4	5	6
If I take the right actions, I can stay healthy.	1	2	3	4	5	6
Regarding my health, I can only do what	1	2	3	4	5	6

my doctor tells me to do.

This next section of questions will focus on your feelings, thoughts, and experiences regarding nurse practitioners. Please say whether you strongly agree, moderately agree, agree, or disagree with each statement. (Continue to use CARD 3)

	Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
The nurse practitioner gives support and information about how to look after my health condition or problem.	1	2	3	4	5	6
The nurse practitioner spends time with me to answer my questions or address my concerns.	1	2	3	4	5	6
The quality of care the nurse practitioner provides is excellent.	1	2	3	4	5	6
I am able to see the nurse practitioner quickly when I have a health concern.	1	2	3	4	5	6
The nurse practitioner helps me find out where to get help from other services in the community.	1	2	3	4	5	6
The nurse practitioner is easy to talk to.	1	2	3	4	5	6
	Strongly Agree	Moderately Agree	Agree	Disagree	Moderately Disagree	Strongly Disagree
I am not clear about the nurse practitioner role.	1	2	3	4	5	6
I am not clear about the nurse practitioner's knowledge, education, or	1	2	3	4	5	6

training.

I do not feel that I can choose to see my doctor rather than the nurse practitioner. 1 2 3 4 5 6

I am concerned that my doctor will not be aware of everything about my health and about my concerns if I see the nurse practitioner. 1 2 3 4 5 6

I have no concerns or problems with seeing the nurse practitioner. 1 2 3 4 5 6

For the last 7 statements, please respond by saying very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied. (CARD 4)

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
Care or advice I get from the nurse practitioner.	1	2	3	4

The amount of time the nurse practitioner spends with me.	1	2	3	4
---	---	---	---	---

The availability of the nurse practitioner.	1	2	3	4
---	---	---	---	---

The waiting time to get an appointment to see the nurse practitioner.	1	2	3	4
---	---	---	---	---

The waiting time to get an appointment to see the doctor.	1	2	3	4
---	---	---	---	---

	Very Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Very Dissatisfied
How the professionals in this centre work together to help with your health problems.	1	2	3	4

The way the nurse practitioner speaks and listens to you.	1	2	3	4
---	---	---	---	---

APPENDIX I

Gizhewaadiziwin Health Access Centre: Background and Demographic Information

1. Type of setting? **Primary health care, Aboriginal Health Access Centre**
2. Number of nurse practitioners and family physicians in primary health care practice?

	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004
# Physicians					
# N.Ps.					

3. Gender of nurse practitioners and family physicians in primary health practice?

	Year 2000	Year 2001	Year 2002	Year 2003	Year 2004
Physicians M/F					
N.Ps. M/F					

4. Have any client satisfaction surveys been completed in the past?
 Yes _____
 Explain: _____
 No _____

5. Have any quarterly or yearly evaluation reports on the numbers of cervical screenings performed at your agency been done in the past?
 Yes _____
 Explain: _____
 No _____

6. Is there any cervical cancer screening monitoring strategy currently in place?
 Yes _____
 Explain: _____
 No _____

7. What current cervical cancer screening interventions are utilized in your agency?
Please check ALL that apply.

- Client reminder letters
- Client reminder phone calls
- Automated electronic recall for Pap testing due
- Chart tagging/reminders
- Client held records
- Pamphlets/written literature
- Community Health Nurse referral
- Physician referral
- Media, radio/newspaper/posters

8. Initial operational date of primary health care service delivery. _____

9. Additional traditional/western health services offered.

10. What outcomes do you anticipate to achieve by participation in this evaluation process?

11. Overall, how would you rate cervical cancer screening services offered by your agency?

(1) _____ Excellent, (2) _____ Good, (3) _____ Fair, (4) _____ Poor

12. Does your agency currently have practice guidelines and policy expectations for cervical cancer screening?

(1) _____ Yes. (2) _____ No, (3) _____ In development process

APPENDIX J

Gizhewaadiziwin Health Access Centre: Activity Evaluation Form

Developed for use in the study to be conducted by Carienne Bowes-Kerber and other researchers, titled,

“A critical evaluation of nurse practitioners performing cervical cancer screening on participation rates among Aboriginal women accessing primary health care services through an Aboriginal Health Access Centre.”

**AUDIT TYPE: OPPORTUNISTIC CERVICAL CANCER SCREENING
ACTIVITY CONDUCTED BY PRIMARY HEALTH CARE NURSE
PRACTITIONERS**

TIME PERIOD: JANUARY 1, 2000 TO SEPTEMBER 31, 2004

AUDITOR: _____

DATE: _____

CLIENT STATUS: (1): Status on-reserve
(2): Status off-reserve
(3): Metis
(4): Other

Current age of client (ages 18 through 69 only): _____

Date of first ever client visit: _____

Date of most recent client visit: _____

How many nurse practitioner visits in past year? _____

How many doctor visits in the past year? _____

	Year 1: 1999-2000	Year2: 2000-2001	Year 3: 2001-2003	Year 3: 2003-2004	Year 4: 2004-2005	Comments
Advise and info given re: Pap test						
Pap Test Done (Y/N)(date)						
First time ever screened (Y/N) Date last screened						
Results (positive/negative)						
Referred for treatment (Y/N/Na)						
Treatment received within 3 months (Y/N/NA)						
Follow-up Pap test done (Y/N/Na)						
Chart tagged for Pap test						
Client Refuses Pap Test under any conditions						